REPORT

TO

WILDLIFE MINISTERS

FROM

THE WILDLIFE CONSERVATION COLLOQUIUM TASK FORCE

NOVEMBER, 1987

Canada

91-04386/

REPORT TO WILDLIFE MINISTERS

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COLLOQUIUM TASK FORCE

NOVEMBER 1987

Published by the authority of the
Minister of the Environment
Conservation and Protection
Canadian Wildlife Service

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Catalogue No. CW66-90/1987E
ISBN 0-662-15772-9

Copies available from

Distribution Section
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K1A 0H3

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EXECUTIVE SUMMARY

The idea of a national Wildlife Conservation Colloquium was developed at the Conference of Wildlife Ministers in January 1985, when Ministers expressed concern over the growing need of all governments to trim deficits while at the same time meeting their responsibilities to continue and to improve the management of wildlife in Canada. The Colloquium was held May 7-8, 1986 (1) and focused particularly on the need to find improved means of facilitating cooperation among the many interested parties, both within and outside government, and on the need for new sources of government financing for essential new initiatives.

The Wildlife Conservation Colloquium Task Force was established to follow up the ideas discussed at the Colloquium. Specifically, its terms of reference were to:

- examine new ways to generate funds for wildlife conservation, and
- explore new opportunities for cooperative wildlife conservation arrangements in Canada.

The Task Force focused on six possible ways of generating new funds:

- an excise tax on outdoor-related consumer products,
- an income tax check-off scheme,
- new or increased user fees,
- a Canadian Conservation Bond,
- lottery proceeds,
- sales of stamps, coins and art prints.

It explored opportunities for cooperative arrangements to enhance wildlife conservation in four main areas:

- cooperative wildlife research institutes,
- cooperative management opportunities,
- habitat protection and enhancement,
- application of "marketing" to wildlife conservation.

The Task Force met four times and invited individuals to prepare papers to expand on issues of special concern. In all, thirteen papers were produced and are appended to this report. A preliminary report was presented to the Wildlife Directors Committee at the 51st Federal-Provincial-Territorial Wildlife Conference in Tuktoyaktuk, NWT in June 1987.

The Task Force recommends to Wildlife Ministers that:

1. Governments endorse the establishment of an excise tax on wildlife-related consumer products and that the resulting fund, or an amount equivalent to it, be applied to new wildlife conservation activities throughout Canada;
2. Governments facilitate the implementation of a scheme whereby tax payers may make a direct contribution to wildlife programs by a simple check-off on their income tax forms;
3. Governments ensure that user fees are related to the value of the resource and to the benefits which users derive from it, whether the use is consumptive or non-consumptive;
4. Governments consider the idea of a Canadian Conservation Bond in order to fund the major capital costs of conservation projects;
5. Governments consider allocating a percentage of lottery profits earned during National Wildlife Week (April) to non-governmental organizations involved in wildlife work;
6. Governments implement the establishment of cooperative wildlife research institutes at Canadian universities, with core funding provided chiefly by the federal government (from new funds);
7. Governments actively pursue opportunities for cooperative management and sharing of expertise as a means of dealing with conservation issues of broad concern (such as waterfowl management, endangered species);
8. Governments ensure that their programs in other fields are not in conflict with their wildlife conservation objectives, and consider requiring compensation, in kind or in cash, for the loss or degradation of wildlife habitat;
9. Governments undertake further surveys of the importance of wildlife to Canadians on a firm five-year cycle, beginning in 1988, and undertake cooperative research programs to examine marketing issues concerned with the uses of wildlife;
10. Governments pursue the opportunities presented by Canadian markets for the manufacture or assembly of wildlife-related consumer goods.

INTRODUCTION

The idea of a national Wildlife Conservation Colloquium was developed at the Conference of Wildlife Ministers in January 1985, when Ministers expressed concern over the growing need of all governments to trim deficits while at the same time meeting their responsibilities to continue and to improve the management of wildlife in Canada.

These concerns were shared by others. In December 1985, the Economic Council of Canada mounted a "Colloquium on the Environment" (2) which drew national attention to the need for more effective integration of economics and environment. In April 1986, the "National Forestry Congress" (3) drew attention to the need for a new national forestry strategy which would encompass national concerns for environmental quality as well as concerns for forest (timber) management.

A month later, in May 1986, the national "Wildlife Conservation Colloquium" (1) focused attention on the wildlife component of the environment-economy picture. The Colloquium was concerned particularly with the need to find improved means of facilitating cooperation among the many interested parties, and on the need to find new sources of financing for essential new initiatives. These concerns grew out of recognition of the facts that many wildlife populations are under stress, habitat is declining, and popular and important socio-economic benefits are at risk. Innovative policies and programs are essential to meet these pressures, despite the fact that governments are under increasingly severe spending constraints in the face of mounting deficits.

From its eight invited papers and its consequent wide-ranging discussions, the Colloquium identified three key problems:

1. Wildlife has a very broad constituency of public interest but a narrow base of direct financial support under existing programs and policies. It is necessary to broaden that base.

2. Users of the wildlife resource need to do more to sustain the many and varied benefits they receive. The "user pay" principle should be applied more effectively to both consumptive and non-consumptive users of wildlife and wildlife habitat. It is unacceptable to borrow from future generations to pay for today's operating costs, especially in an era of extensive government deficits.

3. Wildlife issues are compartmentalized among many interests in governments and the private sector. Efforts must be made to integrate the goals of programs affecting wildlife and wildlife habitat, and to pursue new cooperative approaches in order to make the best possible uses of the capabilities of governments, industry and private citizens.

The Wildlife Ministers present at the Colloquium directed that a task force be appointed to follow up the ideas which had been discussed and to report back to them with recommendations for action. Accordingly, at the Federal-Provincial Wildlife Conference which followed in June 1986, wildlife directors established a task force with members from the federal and provincial governments and from national non-government organizations, under the chairmanship of the Director General of the Canadian Wildlife Service. Its terms of reference were to:

- examine new ways to generate funds for wildlife conservation; and

- explore new opportunities for cooperative wildlife conservation arrangements in Canada.

The Task Force met four times and invited individuals to prepare papers to expand on issues of special concern. In all, thirteen papers were produced and are appended to this report. A preliminary report was presented to wildlife directors at the 51st Federal-Provincial-Territorial Wildlife Conference in Tuktoyaktuk, Northwest Territories in June 1987.

RECOMMENDATIONS OF THE TASK FORCE

On the basis of its investigations, the Wildlife Conservation Colloquium Task Force recommends to Wildlife Ministers that:

1. Governments endorse the establishment of an excise tax on wildlife-related consumer products and that the resulting fund, or an amount equivalent to it, be applied to new wildlife conservation activities throughout Canada;
2. Governments facilitate the implementation of a scheme whereby tax payers may make a direct contribution to wildlife programs by a simple check-off on their income tax forms;
3. Governments ensure that user fees are related to the .value of the resource and to the benefits which users derive from it, whether the use is consumptive or non-consumptive;
4. Governments consider the idea of a Canadian Conservation Bond in order to fund the major capital costs of conservation projects;
5. Governments consider allocating a percentage of lottery profits earned during National Wildlife Week (April) to non-governmental organizations involved in wildlife work;
6. Governments implement the establishment of cooperative wildlife research institutes at Canadian universities, with core funding provided chiefly by the federal government (from new funds);
7. Governments actively pursue opportunities for cooperative management and sharing of expertise as a means of dealing with conservation issues of broad concern (such as waterfowl management, endangered species);
8. Governments ensure that their programs in other fields are not in conflict with their wildlife conservation objectives, and consider requiring compensation, in kind or in cash, for the loss or degradation of wildlife habitat;
9. Governments undertake further surveys of the importance of wildlife to Canadians on a firm five-year cycle, beginning in 1988, and undertake cooperative research programs to examine marketing issues concerned with the uses of wildlife;
10. Governments pursue the opportunities presented by Canadian markets for the manufacture or assembly of wildlife-related consumer goods.

BACKGROUND

The Task Force explored six possible ways of generating new funds for wildlife conservation work:

- an excise tax on outdoor-related consumer products,
- an income tax check-off scheme,
- new or increased user fees,
- a Canadian Conservation Bond,
- lottery proceeds,
- sale of stamps, coins and art prints.

1. Excise Tax on Outdoor-Related Consumer Products

The establishment of an excise tax on outdoor-related equipment and supplies has been strongly advocated by Mr. J.B. Turner, M. P. (4). This proposal has been widely, although not universally, supported across Canada. Such a tax would be an application of the "user-pay" principle and would provide for contributions to be made to the costs of wildlife conservation by a far broader spectrum of users than is currently the case.

The Task Force adds its support for the excise tax proposal to the support which was demonstrated at the Colloquium by the following joint resolution of Ducks Unlimited (Canada), World Wildlife Fund (Canada), Canadian Nature Federation, Nature Conservancy of Canada, Wildlife Habitat Canada, Canadian Wildlife Federation and the National and Provincial Parks Association of Canada:

"To generate additional funds for the implementation of the North American Waterfowl Management Plan and for the recovery of endangered species in Canada, we support the introduction of a special excise tax on wildlife-related consumer products." (5)

2. Income Tax Check-Off Scheme

An income tax check-off scheme is in use in many states in the U.S. Taxpayers are able to donate a portion of their income tax refund to the State for a variety of wildlife conservation purposes, simply by checking a box indicating the amount to be donated (6). In 1985, the last year for which statistics were available, taxpayers in 32 states donated a total of US$ 9.36 million, primarily for non-game programs and rare and endangered species programs (7).

The Task Force supports the concept of an income tax check-off scheme. It has been widely regarded as worth trying in Canada and was broached in two papers at the 1986 Colloquium (8, 9). Mr. A.B.C. Drache, Q.C. has prepared a report on the legal feasibility of such a scheme in Canada (Appendix 1). He concludes that it is feasible and would be most easily implemented at the provincial level, with cooperation from the federal government in amending Tax Collection Agreements.

3. New or Increased User Fees

New or increased user fees were agreed by the Task Force to be a justified way of raising additional revenue for wildlife programs. Consumptive users such as hunters and fishermen have traditionally been the main group to pay directly for the use of the wildlife resource. They have generally been highly supportive of wildlife management programs and of the need to pay at least part of the costs of those programs from hunting and fishing licences, fees for registered traplines and privatized exclusive use of guiding or outfitting areas and royalties on furs.

The Task Force believes that user fees should be related to the value of the resource and to the benefits which users derive from it. However, the reaction of the public to new or increased user fees can be highly volatile politically and not readily predictable, as discussed in the papers prepared by Ms. L.J. Foubister and Mr. J.H.C. Walker (Appendix 2) and Mr. M. Lacasse (Appendix 3). The greatest support for fee increases appears to come when the fee-payer can be assured that the new increment will be of direct benefit to the wildlife resource. The probability of success of new or increased user fees will best be assessed by the jurisdiction implementing them on a case-by-case basis.

For the large majority of Canadians who participate in non-consumptive uses of wildlife such as viewing or photography, there is currently no general mechanism by which they can contribute a user fee in support of their activities. Mr. Turner's proposal for an excise tax on outdoor-related equipment and supplies (discussed above) is the only one that

has received a good deal of popular support to date.

4. Canadian Conservation Bond

The concept of a conservation bond was explored in a paper prepared by Dr. D.A. Munro, special adviser to the Task Force (Appendix 4). In his paper, Dr. Munro makes the point that there has been a tendency to neglect and over-exploit our natural heritage in the past and there is a need to re-establish and enhance the capital stock upon which our future welfare and enjoyment depend. Although the operational costs of wildlife management should be borne by current users through taxes and fees, it is legitimate to use an instrument of public debt such as a government bond to finance publicly-supported conservation activities that can be considered capital investments. The Task Force supports the idea of a Canadian Conservation Bond. However, the detailed characteristics of such a bond and the options for establishing it would have to be examined by experts in finance, marketing and conservation before the idea can be taken further.

5. Lottery Proceeds

Lotteries in Canada are operated only under provincial legislation since the federal government withdrew from the field in 1979. The Task Force gathered some information on the operation of provincial lotteries, but did not attempt to produce a complete report on the subject, because much of the information is not publicly available.

The major lotteries are significant income earners. Recent annual reports, for example, show that the Western Canada Lottery Corporation distributed $177 million to the four western provinces and the two territories in 1984-85 and $123 million in 1985-86, after B.C. had withdrawn from the Corporation. The Atlantic Lottery Corporation distributed net profits of $41 million to the four participating provinces in 1984-85 and $46 million in 1985-86. In central Canada, the Ontario Lottery Corporation turned over net profits of $250 million in 1984-85 and $317 million in 1985-86. No figures were obtainable from either the Quebec or the Interprovincial Lottery Corporation.

The principal beneficiaries of the profits from the major provincial and interprovincial lotteries are groups with sport, culture, heritage, recreation or community services as their main focus. Wildlife resources also contribute to the sport, culture, heritage and recreational needs of the public, but the annual reports of the various lottery corporations give no indication of how often organizations involved in wildlife conservation are funded. The Task Force suggests that consideration should be given to dedicating a percentage of lottery profits to the support of non-government organizations with wildlife-related objectives. The funds could come from profits earned during National Wildlife Week in April, during which time there is broad participation in and support of wildlife- related activities by the public.

6. Sale of Stamps, Coins, Art Prints

The Task Force considered the possible extension of sales of stamps, coins and art prints but agreed that, at least for the present, existing ventures should be allowed to flourish and no new government initiatives at the national level should be considered.

The Task Force explored four main areas for cooperative arrangements to enhance wildlife conservation in Canada:

- cooperative wildlife research institutes,
- cooperative management opportunities,
- habitat protection and enhancement,
- application of "marketing" to wildlife conservation.

7. Cooperative Wildlife Research Institutes

The idea of cooperative wildlife research institutes at Canadian universities was examined in detail for the Task Force by Dr. G.W. Scotter (Appendix 5). The Task Force feels that there is a need for such institutions, stemming from the fact that scientific information is essential for the wise use of wildlife resources but the ability to conduct effective research in Canada is becoming increasingly difficult because of government spending restraints. Cooperative research institutes, supported by the two senior levels of government, the universities, and other interested parties such as industry, would offer the following advantages:

- the institutes would provide government agencies with local centres of excellence in which high priority multi-disciplinary research could be undertaken efficiently and cost-effectively;
- the institutes would provide a valuable leveraging mechanism for all parties contributing to the funding of wildlife research;
- the institutes and their governing bodies would provide a mechanism , which is presently lacking, for the coordination and stimulation of wildlife research across Canada;
- graduates of the institutes would be trained in the practical aspects of their profession as well as in the academic ones, enabling them to contribute to their field and to the economy more quickly.

8. Cooperative Management Opportunities

The Task Force agreed that many issues in wildlife conservation today involve a broad array of interested parties and thus may be appropriately addressed through cooperative management arrangements, as discussed by Mr. J.H.C. Walker and Ms. L.J. Foubister (Appendix 6). An example is the protection and sustainable use of migratory waterfowl populations shared by Canada and the United States, which is addressed by the North American Waterfowl Management Plan (10). Another is the management and rehabilitation of endangered species which involves the cooperation of many jurisdictions within Canada. The fact that endangered species conservation is an issue of high international interest and impact strengthens the argument for developing management programs which coordinate the efforts of all jurisdictions.

Cooperative management may also be fostered by sharing of expertise, as outlined in the brief by Mr. J. Cinq-Mars (Appendix 7). This may involve exchange of information or inter-agency exchange of personnel. Although personnel exchanges may be difficult to arrange in times of budget restraint, the Task Force strongly encourages them as an excellent way to promote the mutual understanding and acceptance of programs and objectives that is the key to cooperation among government and non-government organizations.

9. Habitat Protection and Enhancement

Wildlife habitat protection and enhancement increasingly demand cooperation among many levels of government and the private sector. Urbanization, increased transportation, exploration for and development of natural resources, soil degradation, air and water pollution and many other factors are constantly eroding the "home" of wildlife.

The Task Force believes it to be of prime importance that policies, legislation and programs within and among governments are compatible with the requirements of sound wildlife management. Such a need is most strikingly evident in activities involving land use, from local land-use planning to national programs such as those for the benefit of agriculture, forestry and non-renewable resource development, which affect wildlife habitat. As outlined in the paper by Wildlife Habitat Canada (Appendix 8), there are many opportunities in Canada for governments to influence the direction and funding of other programs to the benefit of wildlife habitat conservation. Within each jurisdic-

tion, there should be clear goals for the maintenance and enhancement of wildlife habitat and effective strategies for achieving them.

In some jurisdictions, environmental impact assessment procedures have been put in place to require developers to mitigate damage to public resources, including wildlife, resulting from specific development schemes. There may also be mechanisms to enable compensation to be collected where mitigation is impracticable and the funds used to set aside or enhance other habitat. As discussed by Ms. A.M. Jones (Appendix 9), these measures should be looked upon as " user fees" charged for the use of a public resource. The Task Force supports the position that they should become the firm policy of governments, strongly enforced, in order to offset costs to society incurred as a result of land use practices.

10. Application of Marketing to Wildlife Conservation

Wildlife has many different "users" in our society. In order to respond to their needs and aspirations, wildlife managers need a good understanding of them and of the socio-economic benefits that wildlife provide. To date, most emphasis has been put on consumptive uses of wildlife, an emphasis paralleling the historical origins of wildlife conservation (Appendix 10). However, the 1981 National Survey of the Importance of Wildlife to Canadians (11) demonstrated that consumptive users comprised only about 10% of the total number of Canadians who participated in wildlife-related activities. The Task Force agreed that the survey should be repeated on a regular basis in order to enable wildlife managers to have a better understanding of the nature and value of both consumptive and the non-consumptive uses of wildlife.

This knowledge will provide the basis for marketing strategies to promote a better understanding of the nature and value of the socio-economic benefits provided by wildlife to the great majority of Canadians - by the citizens who derive the benefits, the conservation specialists who deliver them and the politicians who must vote the dollars. In the event that the resource is not adequately nurtured, the same base of knowledge will provide for the determination of the nature and magnitude of the benefits at risk and of the segments of Canadian society to which the losses will accrue. An analysis of the strategic role of marketing in wildlife conservation is outlined in a paper by Mr. F.L. Filion (Appendix 11). The Task Force believes that marketing research should be promoted in order to provide information on the numbers and characteristics of Canadians (and of visitors to Canada) who derive benefits from wildlife, on the specific nature of the benefits they derive, the extent to which they are willing to pay for them and the ways in which those benefits can be enhanced.

A different aspect of marketing involves the opportunities provided by Canadian consumers for the manufacture or assembly of wildlife-related products. Examples were provided by Mr. M. Lacasse of corporations in Quebec that have undertaken either the manufacture or assembly of goods used by sport fishermen, goods which had previously only been imported (Appendices 12 and 13). Considering that 87% of Canadians participate in wildlife-related activities (e.g. hunting, fishing, birdwatching, nature photography), the Task Force believes that governments should be encouraged to actively pursue opportunities for establishing or expanding domestic industries involving wildlife-related consumer goods.

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Appendix Report #1

"Re: Wildlife Check-off Proposal"

by

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REFER TO: 87-D-1646

March 20, 1987

BY HAND

Mr. H.A.Clarke,
Director General,
Canadian Wildlife Service,
Environment Canada,
Ottawa, Ontario.
K1A 0E7

Re: Wildlife Check Off Proposal

I was retained by Environment Canada to give an opinion within the following guidelines.

1. Assess the feasibility of implementing a tax check off system in Canada taking into consideration policy, legal, technical and administrative factors.

2. Identify the sequence of steps that would require to be taken in the event that a province (other than Quebec) wishes to implement a tax check off system.

3. Identify the sequence of events that would require to be taken in the event that the Federal Government wishes to implement a tax check off system.

These items will be dealt with in the same order in the balance of this opinion letter.

1. Feasibility:

This section of the discussion will be divided into two parts. The first will deal with the possible "mechanics" of implementing a check off system within the context of the tax collection system. The second will deal with a number of issues which must be considered with regard to the form of such a system.

Mechanics: As far as my research reveals, there has never been any check off system (federal or provincial) in Canada which would allow an individual taxpayer to direct that a portion of funds collected through the tax system be directed to a specific purpose. Thus, because the proposal a unique one, we have nothing in the way of precedent.

It is worth noting that from time to time, the incumbent Minister of Finance has strongly opposed the concept of directing a portion of tax revenue to a particular purpose (a so-called "targetted tax") but the check off proposal differs from a targetted tax in that it represents a mechanism which would allow the taxpayer to voluntarily pay an additional amount for a specified purpose. It does not therefore, represent a drain on the fisc, but rather requires only administrative cooperation between the consenting provinces and the federal government.

At the present time, the federal government collects tax on behalf of all the provinces except Quebec (which is not part of our mandate) and the two territories. The basis of collection is the Federal-Provincial Fiscal Arrangements Act. Sections 7 and 8 authorize the federal and provincial governments to enter into Collection Agreements, which are, in essence, contracts between the two levels of government. As such, they are individually negotiated and the terms may vary slightly. However, it is abundantly clear that for any particular addition to or change in the collection procedure, both parties must be in agreement.

Generally speaking, the provincial personal income tax systems (since we are not dealing with corporate taxes in this opinion) of the agreeing provinces must be in essential harmony with the federal system. This being the case, provincial taxes are expressed as a percentage of federal tax payable. Taxpayers make all their income tax payments to the federal government which in turn distributes the funds to the provinces. A fairly complex set of rules is in place which allows "advances" and sets out various times at which payments are transferred.

The provinces have a legal right to tax data (including information about individual taxpayers) relating to their own residents. Thus while all returns are processed and "handled" by the federal government (Revenue Canada), the provinces do have a right to information on those returns.

There is some room for variations between provinces, however. While the tax return is essentially identical for each province, pages 1 and 4 of the four page individual return are tailored to each individual province. In addition, residents of eight of the nine provinces in question (excluding Newfoundland) and the Yukon Territories also fill out separate provincial tax credit forms which come with their returns as part of the "schedules." Returns for use in each of these provinces will have a separate but provincially appropriate tax credit form.

Each of these tax credit forms are different. They are designed to allow the province to give special categories of tax relief in the form of tax credits. Some types of relief are for contributions to provincial political parties (the most common type of credit), relief for low income property owners, sales tax credits and the like. The nature of the credit system is up to each province but the federal government apparently has something of a veto power. That is to say, if the proposed credit (or other provincial action) does not meet with federal approval (presumably on administrative, not policy grounds), the federal government will not allow the tax credit form to contain it. This refusal is consistent with the contractual nature of the collection agreements.

(It is believed that the federal government has used this veto power though it would normally be in "private" negotiations and thus not public knowledge. However, a couple of years ago Ontario Treasurer Bob Nixon indicated that he wanted to establish limits for Ontario residents using the capital gains exemption. This would have undercut federal tax policy, but would have had to be administered by the federal government. We understand, though nothing was ever publicized, that federal agreement was not forthcoming.)

The calculations which are done on the tax credit forms (usually resulting in a reduction of provincial tax) are then transferred to page 4 of the regular tax return, which explains why page 4 differs from province to province. Presumably, the amounts transferred to each province reflect reductions in the tax revenue each province is owed as a consequence of its offering tax credits to its residents.

Having looked at this outine of the current system as background, we can now look to a specific proposal.

Unlike a tax credit, the proposed check off is an addition to tax otherwise payable by an individual to his province (or a body within the province). For ease of discussion, we'll assume that the province will collect the money for its own use but will have an obligation to turn the proceeds over to some designated body, whether it be its own environment (or equivalent) department or to a specially constituted entity.

The ideal system would appear to be to have taxpayers who wish to make a voluntary payment designate an amount on the tax credit form where a special area would be provided. The amount to be credited would be an addition to tax shown on page 4 of the tax return, the converse of the situation we now have with provincial tax credits which reduce provincial tax revenues. In my view, this simply means adding one more line to page 4 of the tax returns prepared for each participating provinces. Since special page 4's are prepared for each province and territory now, this should not present a significant problem.

In effect, under this proposal the actual check off is done on the provincial tax credit form where the amount is filled in and the document signed. Just the amount will then be transferred to page 4.

(The major problem will be whether Newfoundland and the Northwest Territories are prepared to authorize a form similar to the tax credit form the other provinces now have in order to accomodate this system. It is conceivably possible that a system could be put in place where a designation can be added to page 4 without the back-up form, but my own "gut reaction" is that the federal government might balk at this since it represents a significant variation on the use to which page 4 is now put.)

In sum, I believe that the mechanics of implementing the tax check off scheme should be explored within the context of amending the present provincial tax credit forms to accomodate the scheme and then indicating the net effect of the transfer to page 4 of the return.

This raises another question which may relate to the second part of

this discussion, but which I shall mention here. Generally speaking, the federal government does not provide individual tax data to the provincial governments unless it is requested. Under the scheme I have outlined, the appropriate funds would be "automatically" transferred to the appropriate provinces since they would simply increase the "tax take." However, it will be necessary to "split out" some data. Obviously, if the funds raised by the check off are to be segregated in some way at the provincial level for a specific purpose, the quantum must be identified. This should be no problem at all.

Since the proposal is based on an amount being added to page 4 tax receipts at a given line, Revenue's computer would only have to total up all amounts entered on that line to come to the figure which the province is entitled to.

The harder question is whether Revenue can easily identify by name and address each "donor" and the amount given. This would be necessary if the recipient province wanted to acknowledge the gift or if it wanted, in the year of gift, to provide that the gift would be treated as a charitable donation to Her Majesty in the Right of a Province. If the latter were the case, the donor would get a 100% deduction <u>in the year of gift</u> claimable against both federal and provincial taxes.

This would require either that a receipt be issued (for which a name and address would be required) or that Revenue's computers would store the information for use in the subsequent taxation year. I do not know which, if either, is feasible and the additional parameters of the scheme may be set by such technical limitations.

<u>Additional Issues of Form</u>

A. <u>Should the Check Off Be limited to Refunds?</u>

In the material supplied to me with regard to the American experience with a check off, it appears that some states allow for a check off only when the taxpayer is to get a refund. Others allow the taxpayer to use the check off when he or she owes money.

From an administrative point of view, the system which I have suggested above does not require one or the other. I believe that there is no reason to differentiate between the two situations. In each case using the check off suggests a pledge to the fund in question and whether the taxpayer pays through making out a slightly larger cheque to the government or pays through a reduced refund is of no consequence. Unless some other factor which I have not considered is raised, I'd recommend that the check off be available to both debtor and creditor taxpayers.

B. <u>Should The Donors Get a Deduction For a Gift to Her Majesty?</u>

I earlier raised the question of whether the taxpayer who contributes by way of a check off is to get credit in his or her subsequent year's return. As I mentioned, this <u>may</u>, though it is far from certain, create administrative problems since some method must be devised to individually identify donors and to provide a mechanism for the subsequent deduction.

There are a couple of good reasons to give subsequent year recognition. The first is fairness. If I as an individual voluntarily and directly contribute to a provincial fund for environmental purposes, I would be entitled to a receipt for a gift to Her Majesty in the Right of the province, which in turn could be fully deductible in the year of gift, from taxable income. Why, therefore, should I be deprived of this deduction simply because I have contributed indirectly through the check off system?

(The timing should be noted. If a check off is made on the 1987 tax return, the gift is actually made in the 1988 calendar year and unless there is a special legislative enactment to the contrary, the gift should be treated as a 1988 gift.)

Second, if I get the deduction, it is a deduction in computing taxable income for federal as well as provincial purposes. The cost of the deduction is therefore born in a ratio of approximately two to one by the federal government. Without a deduction, the whole cost of the gift is borne by the taxpayer and accrues to the province. With a deduction, the province gets the full amount but provincial revenues will be somewhat reduced in the following year, with an even greater cost to the federal treasury.

Thus, a decision will have to be made as to whether a deduction system can be managed administratively and if so, how. Then the decision must be made as to whether a deduction <u>should</u> be given in the year of gift. If it is, the cost to the federal government and the provinces will be increased. If it is not, sophisticated taxpayers will eschew the scheme in favour of a direct gift...or may perhaps give no gift at all.

C. <u>What Happens if a Checked Off Amount is Not Collected?</u>

A wholly different potential problem may arise. Issues related to assessment and collection are based upon statute and debts which may be owing. What happens if a taxpayer owes taxes and part of the "tax" turns out to be the checked off amount? The general rule of law is that a charity cannot sue on a pledge of a gift except in the most unusual circumstances.

Suppose for example, a taxpayer indicates a $20 donation by check off. This is reflected as an increase in provincial tax owing, but technically it is not a debt at all but a voluntary transfer. If the taxpayer doesn't pay his taxes owing, does Revenue have the power in bringing action or taking collection proceedings, to collect the checked off amount? This is a neat technical question which may be raised. (This problem will <u>not</u> be resolved by limiting the check off to taxpayers who claim a refund. Every year there are thousand who claim a refund who subsequently are found to owe money.)

A solution may be that in any tax proceeding against a taxpayer who has used the check off procedure, no steps will be taken with regard to the amount checked off. If, when the proceedings are at an end, the taxpayer has not paid the amount of the check off, one can assume that an adjustment will take place under which the province refunds to the federal government the money advanced but not collected.

D. Should The Amount to be Checked Off Have a Maximum Limit?

Perhaps linked to the previous issue issue will be whether there will be a maximum amount which can be checked off. Conceptually, there is no reason for such a limit. But if the federal government expresses concern about advancing funds to a province based on a check off where the funds might not be paid, those concerns might be alleviated if it can be shown that the amount in question for each taxpayer who uses the facility will not exceed some acceptable limit.

Of course, if the check off is to be treated as a charitable donation in the year it is made, there would be revenue losses to both the federal and provincial governments. While we do not think these would be significant, the possibility of such costs might be a rationale to place a maximum figure on the check off.

E. Is the Gift To A Province or a "Private" Entity?

Early on in the process, a decision will have to be made in each province as to whom the recipient of the money will be. In my view, the recipient should be the province itself, not a separate entity. There are two reasons for this, I suggest. One is that from a "political" point of view, Revenue can more easily justify collecting funds for a province. If the funds are earmarked for a private "wildlife" group within the province, many other charities might have a claim for a check off.

Second, if the gift is to the province, for deduction purposes the amount can be used to reduce up to 100% of income, not just 20% as in the case of a private charity.

Obviously, the province need only promise that the funds will be used for designated purposes and it is within its own decision making powers whether it in turn passes all or a part of the designated funds to another entity. This issue may turn out to be as much a "public relations" problem as anything else.

F. What About Other Possible Check Offs?

While this issue is a bit beyond my brief, I feel I should highlight what may be a potential problem. Proponents of the plan are certain to run into the argument that if the check off is used for wildlife conservation, there may also be equally important future claims to use the same procedure.

I think the only effective answer is that any proposal can only be implemented through the joint agreement of the provinces and the federal government, so that while a precedent of some sort is being set, the federal government retains an effective veto. In other words, accepting this proposal doesn't mean that all proposals must be accepted.

Having looked at the issues surrounding the administrative feasibility of a check off scheme and some of the technical and policy issues, we'll now turn to procedural matters.

A Suggested Sequence of Steps For a Provincial Check Off

It appears to me that two separate tracks should be followed at the same time in order to most efficiently implement a check off scheme. Of course, the issue of timing depends to some extent upon how quickly such a scheme is to be put in place. For example, if the idea is that it will be in place for 1988 using 1987 tax returns, some real speed is necessary because the design of the tax forms is usually complete about the beginning of September to allow for the massive printing job which is necessary. On the other hand, if you are looking to a 1989 implementation using 1988 tax forms, there is some leeway.

(You must also factor in the effect of the tax reform exercise which will be launched in May or June. There is a possibility that a new system will be in place for the 1988 tax year which may mean a radical restructuring of the tax forms. In my view, it will also mean substantive negotiations will take place between the federal government and the provinces which may offer a good opportunity for one or more provinces to present the check off scheme to Ottawa.)

Putting aside the tax reform variable, it seems to me that the implementation exercise should be split into two parts, each operating simultaneously. On the one hand, negotiations should be started with at least one province to get agreement in principle. I would stress that such negotiations must include the provincial Treasury or Finance Department since without their cooperation, I believe the exercise will fail. And of course the appropriate Environment department will be part of the negotiations.

I would suggest that at this stage, a firm proposal should be put before them with decisions having been taken with regard to the variables I have mentioned in this paper. (But it should be borne in mind that there can be a trade-off with regard to some of these variable elements if that is what it takes to get the cooperation at the provincial level.)

My own reaction would be that efforts in this regard should initially be focussed on one province. Past experience has shown that where one province makes a deal with Ottawa on tax collections, Ottawa will invariably agree to other provinces participating on the same terms. Thus, it is more important to get at least one province onside than to approach Ottawa with, say, six provinces. (Of course, if time and circumstances permit and more than one province agrees to support and request the check off, so much the better.)

At the same time this is going on I would also suggest that informal meetings be set up at the federal level, perhaps with the Environment Canada as the lead agency. The contact should be between Environment, Revenue Canada Taxation and Finance and should be designed to elicit the reactions of those two departments to the scheme. The idea should probably be raised as being one which will likely be forthcoming as a request from

one or more provinces. At this stage, Ottawa's reaction, positive or negative, and comments can be assessed and if it has technical or other problems, these can be communicated back to those who are dealing with the provinces.

(At the first instance, I see the negotiations as being at the official, not Ministerial level. A Ministerial level meeting might be set up if it appears that there are logjams which might be solved at a political level.)

Normally on tax policy issues, Finance would be the most important of the two federal departments to deal with. But in this situation where Revenue designs the forms and collects the funds, my guess is that if Revenue has no objections, there would be little opposition from Finance. But you should be aware, as I noted earlier, that Finance may have qualms over setting a check off precedent. Emphasis should therefore be placed on the point that in any future case, the federal government still has an effective veto.

Ideally, the two sets of meetings should resolve both the technical problems (if any) and settle on the design of the check off. Once these issues are set, it would then be up to the appropriate provincial ministry (Treasury or Finance) to make a formal approach under the Federal-Provincial Fiscal Relations Act to amend the Tax Collection Agreement(s) to facilitate the implementation of the check off.

My guess is that in practical terms, it is likely too late to hold all the needed discussions to implement the system using the 1987 tax returns, but you will be closer to the situation than I. It may be that if there is little opposition to the idea at either governmental level and no problems arise in the design of the check off, using the 1987 returns may be feasible.

Sequence of Steps For a Federal Check Off

I'd like to start this discussion by stating that I suspect that there would be more opposition from Finance and Revenue Canada over a federal check off than with a provincial one. With a provincial check off, the policy implications of using the tax administration system to raise targetted funds are not serious. Turning aside other requests for similar treatment (which I suspect would be the major objection) would be based on the fact that the policy is purely provincial and that the federal government is merely offering administrative cooperation to the provinces.

If a federal check off were used, I suspect that Finance would be innundated with additional requests to use the tax system for the collection of targetted donations to supplement revenues allocated to specific federal projects.

From a technical point of view, it seems to me that if the check off were used at the federal level, it would have to be shown on page 4 of the tax return. It would have to be shown as an addition to federal tax and structured in such a way that:

(a) it does not raise provincial tax liability since for nine provinces, provincial tax revenue is a percentage of federal tax; and

(b) it is not treated as a donation to Her Majesty, unless a policy decision is made that the provinces will de facto share the cost of the programme through bearing that portion of tax relief such a donation would mean.

Some explanatory material would have to be included in the Income Tax Guide (for the provincial tax, this might be on the Tax Credit form) and it might be necessary to have an additional schedule to the federal returns on which to actually indicate the desire to use the check off and the amount pledged. Given the fact that Revenue has a constant concern about both the length and complexity of the guide and the number of Schedules mailed with the standard tax return, I suspect that there might be more administrative opposition to a federal check off than to a provincial one.

I would suggest the following steps are necessary.

1. Preliminary discussions should take place with Finance and Revenue to determine what their reactions will be to a federal check off. In preparation for this meeting, a detailed proposal as to how the check off would work, including perhaps suggestions for form changes should be drafted.

2. Once these discussions take place, a detailed memorandum should be prepared for the Minister of Environment Canada outlining the scheme and setting out the reactions of Finance and Revenue. After the initial meetings, it should be possible to assess whether a deal can be cut through negotiation with the other departments.

If it is felt that arrangements could be made, this should be confirmed by the Environment Minister contacting his colleagues at Finance and Revenue.

Since this is not a Budgetary matter, it need not be part of a Budget, nor must there be a Ways and Means Motion. (The Department of Justice may have to be called in to determine whether legislation is actually needed to put a "voluntary" item on a tax return. My personal reaction is that it is not.)

3. If it appears that progress cannot be made in negotiation with Finance and Revenue, the decision will have to be taken by the Minister of Environment Canada as to whether this is an item which should go to Cabinet for debate. That, of course, is as much a political decision as anything else, as is what might happen thereafter. As such, it is outside my province to comment.

In sum, the process of negotiating a federal as opposed to provincial check off probably is less complex in mechanical terms but, I suspect, will raise substantially more opposition and problems. This should be borne in mind in deciding on a strategy to follow.

Conclusion

I trust that the foregoing discussion adequately covers the key issues with regard to both the possible form and mechanics of a tax check off as well as the scenarios which might be followed to implement such a scheme. If you have any questions arising out of this opinion or if you would like me to elaborate, please do not hesitate to contact me.

Yours sincerely,
DRACHE, ROTENBERG

Arthur B.C.Drache, Q.C.

Appendix Report #2

Increased User Fees

by

L.J. Foubister

and

J.H.C. Walker

INCREASED USER FEES

Increases in user fees have been suggested as a measure to increase the funds available for wildlife management. At the very least, it has been recommended that the fees charged should equal the costs to government of providing services for use of wildlife (Brynaert and Hazell, 1986). However, it should be noted that most legislated fees accrue to general government revenue, and there is no guarantee that fee increases will be allocated to wildlife management. Alternatively, it could be argued that government would be more willing to allocate funds to wildlife management if revenues from users were increased.

User fees may be divided into two categories - 1) fees for use of animals and 2) fees for use of associated land. Traditionally, wildlife management in Canada has emphasized the former category of fees. This paper will discuss both fee categories, with respect to the implications of increasing or instituting such fees.

I. FEES FOR USE OF ANIMALS

1. Hunting Licences

Revenue from hunting licences is the largest source of direct revenue for use of wildlife. There are a number of concerns with any large increases in hunting licences fees, in addition to the fact that hunters are already paying their share of wildlife management costs, if not more. Large fee increases are followed by declines in sales of hunting licences. In British Columbia, the fee for a basic hunting licence was doubled in 1982 from $7 to $14 and a $3 surcharge for the Habitat Conservation Fund was added. In addition, species licence fees were doubled. The sale of resident hunting licences decreased by 27% from 1981/82 to 1985/86. There was no accompanying decrease in sales of senior citizen licences,

the fee for which was unchanged (Anon., 1987). A similar pattern of decreased licence sales following increased fees has been documented for California (Unkel, 1983). In both cases, the increased licence fees compensated for the decreased sales, so total revenue did not decrease. In light of the fact that decreased sales of hunting licences are occuring in a number of jurisdictions in North America, and a goal of wildlife agencies is to provide hunting opportunities, large increases in hunting licence fees would be counter-productive. However, the experience in California suggests that licence fees may be increased incrementally and indexed to inflation, without reduction in sales.

A consideration with respect to increased hunting fees is that hunters may be less deterred by fee increases if they are assured that the funds will be directed to game managment. Increased licence surcharges, such as British Columbia's Habitat Conservation Fund, Alberta's Buck for Wildlife, or the Wildlife Habitat Conservation Stamp for hunting migratory game birds, may be an effective way to increase revenues. Hunters in British Columbia have expressed a willingness to pay increased surcharges, in addition to the present $3.00 levy.

Fee increases tied to success or quality hunts may also be more palatable to hunters. For example, a tax or royalty could be levied on successful hunters only. Non-resident hunters pay such a royalty in British Columbia. In some of the Western states, trophy hunts are auctioned in cooperation with client organizations such as the Foundation for North American Wild Sheep. Individual hunts recently have brought as much as $100,000.

Application fees for limited entry hunt lotteries could be increased, but administrative costs of such systems are high, and resistance to such increases may occur because lotteries do not guarantee hunting opportunities. Because of these disadvantages, this measure is not recommended.

2. Guided Hunting Fees

Most jurisdictions have fees for guide licences, and legislation requiring non-residents to hunt with licenced guides. Such a licence costs $100 in British Columbia and Alberta, $50 for Canadian outfitters in Saskatchevan, $5 in Manitoba, and in the Yukon, a concession costs $700 for a 5 year term, plus an initial $75 for an operating licence. In addition, guides in a number of jurisdictions pay royalties on the animals harvested.

Not only could guide licence fees and royalties be increased, but non-resident hunting licence fees could also be increased. Although total revenue from non-resident hunters is not a high as from residents, non-resident fees are substantially higher than resident fees. Existing moose licence fees for non-Canadians, for example, range from $213 in British Columbia through $300 in Saskatchevan and Manitoba, to $350 in Newfoundland/Labrador. When considering increased guided hunting fees, it must be taken into account that Canada is competing in a world market for hunting experiences, and a guided hunt in Canada may cost more than a hunting experience in Africa. Such increases must be individually evaluated with respect to existing fee structures and quality of the hunts.

3. Trapping

In most jurisdictions, trappers require licences. In British Columbia and Saskatchevan, these licences are as lov as $10.
As trapping is a commercial activity, increased fees may be justified, especially if the fees were applied to humane trap research or to education of trappers in more humane techniquies. In many jurisdictions, royalties are charged for each furbearer taken and these royalties generate greater revenues than do licence fees. Not all jurisdictions require royalties, and consideration should be given to instituting such measures, unless there are convincing reasons to counter this. The formulae used for

determining the royalties differ with the jurisdiction.

4. Non-Hunting Uses

Whereas hunters are paying most of the costs of wildlife management, more and more management is being directed toward non-game species and non-hunting uses of wildlife, such as viewing. It is difficult to obtain funds from such users. However, consideration might be given to creating special taxes on wild bird seed, binoculars, backpacking and camping equipment, offroad vehicles, campers, wildlife books, and photographic equipment. The Honourable Barry Turner presented a paper on the special tax option at the 1986 Colloquium.

Alternatively, a licence for non-consumptive users could be established. However, the identification and regulation of these activities would be very difficult. Nor do non-hunting users impose as high management costs on government agencies, making such a licence more difficult to justify. Therefore, the special tax option appears to be the most viable option for obtaining funds from non-consumptive users.

5. Increased Participation

An indirect method of increasing revenue from wildlife-related activities is to increase participation. Measures to increase participation may require reductions in fees in the short-term, in order to increase the support base for wildlife and to increase revenues in the long-term. Wildlife agencies must assess whether their priority is to increase revenue or to increase participation, with respect to the wildlife resource.

Lower fees for users would serve to attract increased numbers of people to wildlife-related activities. Suggestions for reduced

user fees include complimentary hunting licences for hunters under 20 years of age. Low recruitment of young hunters is one factor which contributes to the declining sales of hunting licences. Subsidized hunting training programs would also encourage new hunters. Another suggestion for reduced fees would be to lower or eliminate hunting licence fees for senior citizens. The health benefits gained by senior citizens during hunting may well offset loss of revenue to the government by reduced health care costs.

II. FEES FOR USE OF ASSOCIATED LAND

1. Hunting Access

In a number of jurisdictions, hunters pay for the right to hunt on the land. In Scotland, for example, private property owners can charge for fishing and hunting rights to their land. A top grouse moor in Scotland will rent for around $50 a brace. If the bag is a hundred brace, the day's shooting will cost $5,000. With respect to deer, a week's stalking, with the right to kill six stags, will cost about $2,000. A "top grouse moor" or an estate offering deer shooting will also employ several game keepers and gillies. Encouraging private property owners in Canada to charge for hunting access to their lands may serve to increase hunting opportunities.

In Quebec, fish and game associations manage areas of Crown land, called Zones d'exploitation controllees (ZECs) and charge membership fees and daily fees for access for fishing and hunting. Family membership fees are $25, and daily usage fees for big game hunting may be as high as $25 (Brynaert and Hazell, 1986). Such a system reduces enforcement costs to government. However, the difference in fees between ZECs and non-ZEC areas has lead to a decrease in the number of ZEC members. Secondly, overexploitation in ZEC areas can occur for financial reasons. But it would be useful to explore such an approach further.

Certain areas may provide unusually superior hunting opportunities. Permits to hunt in these special areas could be initiated, and reflect a higher willingness-to-pay. For example, hunters pay $500 each for deer-hunting on the Deseret Ranch in Utah. Only 200 permits are issued. This approach generates far more revenue than the system before 1978 in which as many as 3,000 hunters, paying only a few dollars each, were allowed onto the ranch each season (Chance, 1986). Before such a measure is instituted, it must first be determined whether the goal of the wildlife agency is increased revenue or increased participation.

2. Auction of Guide Territories

Rights to guide in newly designated territories or in territories reverted to the Crown are auctioned in some jurisdictions. This method allows the full market value of the guiding territory to be realized. However, such opportunities for funds are limited.

3. Auction of Trapping Areas

Underutilized trapline areas are auctioned in some jurisdictions. As with guide territories, market values will be realized, but few such areas will be available.

4. Non-Hunting Access

Access fees to wildlife areas, sanctuaries, and parks may be instituted or increased. Alternatively, a single annual licence may be issued which will allow access to a number of areas in the jurisdiction. For such fees to be effective, access to the areas must be controlled and a sufficient number of visitors are necessary so that revenues exceed the costs of administering the system.

SUMMARY

Large general fee increases may not have the desired effect in generating more funds for wildlife managment. Increases in hunting licences should be incremental. Increasing participation in wildlife-related activities may be effective in generating more revenue in the long-term. Consideration should be given to developing access charges to special wildlife lands, for both hunting and non-hunting users, rather than across-the board charges.

L.J. Foubister
J.H.C. Walker
May, 1987

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Appendix Report #3

A Note on User Fees

by

Marcel Lacasse

A Note on User Fees

Marcel Lacasse
Ministère du Loisir, de la Chasse et de la Pêche

6 April 1987

I prepared this note attesting to the somewhat unpredictable character of human behaviour in response to tariff dynamics. It is particularly useful to reflect upon this question at this time, as one of the new forms of funding to be examined by the task force is precisely the feasibility of increased user fees.

Although this funding mechanism first seems quite attractive, it is nevertheless subject to imponderables which may lead to very different results than what was originally anticipated. Revenues from the practice of various activities directly or indirectly related to wildlife resources are indeed a variable of the two following parameters: the demand for a given activity and the cost (tariff) of this activity. One can thus predict that an increase in the tariff imposed for the practice of any activity will not necessarily result in an increase in revenues as the user may, for various reasons, decide to reduce or to end his participation in this activity. Anyone who desires to purchase goods or services or who simply has to pay more taxes for the acquisition of goods or the practice of an activity will be inclined, consciously or not, to weigh and compare the potential benefits associated with the acquisition of these goods (or services) or the practice of this activity against its inconveniences. His behaviour will obviously be dictated by the result of this evaluation. It is therefore difficult to foresee the users' reactions and even hazardous to try to predict with a low margin of error the revenues that can be generated by the application of this type of tariff mechanism. This would be further complicated by the fact that economic theories have long tended to provide oversimplified explanations of users' behaviour based on only one parameter: cost.

Everyday reality is quite different as the demand for goods, a service or an activity is also influenced by various other parameters which in certain cases can have a stronger impact than cost. This is well illustrated by the two following examples.

In 1983, the Ministère du Loisir, de la Chasse et de la Pêche (MLCP) undertook to modify the entire tariff structure of all hunting, fishing and trapping permits and from then on to use hunting permit fees as a management tool rather than a mere source of income for the province. This restructuring effort was largely based on the results of socio-economic studies which revealed cases of fraud among certain groups of hunters, notably moose hunters. For instance, some resident hunters were found to hunt in groups of three with only two holding a moose hunting permit ($22.25) while the third only held a black bear permit ($8.50). This type of infraction was apparently widespread. This was a cause for concern for it introduced biases in provincial harvest statistics which prevented necessary management adjustments from being made. Moose-hunting pressure was being underestimated when this species was already under strong harvest pressure, while black bear hunting pressure was on the contrary overestimated.

To rectify this situation, in 1983 MLCP set a standard price of $20 for all big game hunting permits. The next hunting season, the number of black bear hunting permit holders had decreased from 41 273 in 1983-84 to 20 115 in 1984-85, that is to say a decrease of 51% in response to a fee increase of 135%. In 1985-86 there were 21 189 black bear hunters, a slight increase of 5% over the previous year. A drastic increase in the permit price (tariff) brought about a marked fall (over 50%) in the number of hunters (users). This example shows a clear and unequivocal relation between tariff and demand.

Although one would tend to generalize the principle demonstrated by the previous example to all species hunted in Quebec, the next example shows that there is not always a direct link between costs (tariffs) and demand. The increase in permit price imposed in 1983 also applied to white-tailed deer.

After the increase of 63%, from $12.25 to $20, for the white-tailed deer hunting permit in 1984-85, the number of hunters for that species dropped only slightly (5.9%) from 99 804 in 1983-84 to 93 910 in 1984-85 and a year later, in 1985-86, it was 1% higher (100 523) than just before the increase came into effect. In this case other factors than cost must be considered to understand the users' response.

One of the most plausible explanations would be the amendments to hunting regulations for this species during this period which increased harvest chances. For the first time since 1974, in 1981 the "Buck law" was waived. Females and fawns could be hunted during one day of the season. As indicated by the following figures, this initiative was greatly appreciated by white-tailed deer hunters: their number went up from 79 066 in 1980 to 108 653 in 1981, which was an increase of 63% while the permit price had remained stable. It was repeated in 1984-85 and 1985-86 in a slightly different manner, which seems to explain the low impact the 63% increase in permit fee had on users' demand in 1984-85 and 1985-86.

What conclusions can be drawn from these two examples? Demand certainly varies with the cost of an activity but is also conditional on other factors such as the success rate, the length of the season, the abundance of the resource, the quality of the experience sought by hunters, accessibility, etc. One can also assume that given the lack of research establishing the respective importance of all the factors influencing demand, the feasibility of increased user fees appears limited, however worthy the cause.

Appendix Report #4

A Note on Canada Conservation Bonds

by

David A. Munro

A NOTE ON CANADA CONSERVATION BONDS

A Canada Conservation Bond has been suggested as an instrument to raise money for publicly-supported conservation activities that can be considered as capital investments.

The idea arose as a response to the need to fund implementation of the North American Waterfowl Management Plan which will require an input from sources in Canada of more than $264 million over a 15-year period. A number of other conservation activities urgently require funding and it would be desirable to consider how the funds needed for a comprehensive conservation program, designed to implement the World Conservation Strategy in Canada, could best be raised and allocated. This note deals only with the ways in which a bond issue might play a part in the larger scheme.

It is necessary first to reflect on what a bond is. A bond is a loan contract between governments or corporations as issuers and individuals or corporations as purchasers. To issue bonds is to borrow and incur an obligation to convey some consideration in return.

It may be asked why we should borrow to undertake conservation activities; why we should not fund conservation from general revenues derived from taxation - a pay-as-you-go formula applied to the public as a whole; or by the collection of user-fees - the pay-as-you-go principle applied to the special sections of the public thought to be most directly concerned. The first part of the answer is that conservation should indeed be supported by tax monies and user fees. Certain types of conservation activities are most appropriately supported by funds from those sources. Activities that are properly classed as maintenance and are scheduled to occur regularly as required should be funded by tax monies; these include law enforcement, monitoring the status

of species, reforestation, etc. Activities that are needed only to satisfy the demands of special users such as hunters, boat operators, etc. should be supported primarily by special user fees. The second part of the answer is that there is a special case to be made for funding some conservation activities specifically by borrowing. The rationale is that there is a need to invest in the future, to re-establish and enhance the capital stock upon which our future welfare and enjoyment depend. This need has arisen because of over-exploitation in the past when many aspects of maintenance were neglected and insufficient provision was made for keeping future options open. It may be further argued that the burden of investment to reclaim those options is one that may quite properly be shared with the taxpayers of the future. Finally, an important political consideration is that funding public activities by the sale of bonds means that the necessary financial support is given as a matter of choice, rather than involuntarily as is the case when taxes must be raised to provide the funds that are needed.

There are a number of precedents for special purpose bonds, perhaps the best known being the Victory Bonds of World War II. Many bonds, particularly those issued by provinces, provincial corporations and municipalities, are issued to meet particular capital budget requirements which clearly cannot be funded out of year-to-year revenue. They are issued to support the creation of public assets which will later yield a revenue and/or otherwise contribute to the general welfare. Canada Savings Bonds, while not having a special purpose, have been given a special image, that of a secure and attractive vehicle for the small, patriotic investor. Canada Conservation Bonds, creatively marketed, could be seen as a similarly secure and attractive investment with the proceeds dedicated to a particularly worthwhile and appealing purpose.

Let us now look briefly at some of the details of financing by bond issues. Bond issues have a number of variable characteristics which need to be considered. These are the amount of the issue, the interest that the bonds bear, the period until they mature, and whether and under what circumstances they may be marketable, redeemable or callable. Choices of the characteristics that Canada Conservation Bonds should have would be based upon the amount of money to be raised, the nature of the target market and the factors influencing the general market for securities at the time of issue.

The amount of issue would be determined only after careful consideration of the financial requirements of the various categories of high priority conservation activities deemed to be appropriate for funding by the proceeds of bond issues. Several consecutive annual issues aggregating in the order of $1 billion would probably be of the order that would be required to provide the basis for a comprehensive, continuing conservation program.

The interest to be borne by Canada Conservation Bonds would have to be comparable to that of the general range of bond issues at the time, unless it were considered desirable to target the issue at a segment of the public that might be expected to sacrifice a point or two of interest for the satisfaction of contributing to conservation. Linking some element of tax relief with a rate of interest below the average at the time of issue might be advantageous. Indexation of the interest rate might also be considered.

Maturity periods associated with public borrowing range from 90 days in the case of Treasury Bills to infinity in the case of the renowned British consols, a favourite of conservative investors 100 years ago, and still an active instrument today.

Consols can never be redeemed; their appeal is a guaranteed yield forever. The possibility that Canada Conservation Bonds be unredeemable should be considered, as should the various options for relatively long periods to maturity.

There would not seem to be any reason why Canada Conservation Bonds should not be marketable, nor why the option of their being called should not be retained by the issuer.

Closely related to the characteristics of the bond issue are the means employed to meet the obligations incurred. These will consist of payment of the interest and the cost of redemption.

The options for paying interest are with revenue from general taxation or special user fees or by monetization, i.e. payment by new monetary issues. The latter is not usually considered desirable, although a similar effect is created by inflationary forces which reduce the relative impact of continuing interest payments over time. The choice of sources of revenue for paying interest on Canada Conservation Bonds should take careful account of the overall nature of the activities being supported, i.e. whether they are properly considered as conveying benefits to the public at large, to broad segments of the public or to relatively small groups.

Clearly, there will be no cost of redemption of Canada Conservation Bonds if it is decided that like British consols, they will be unredeemable. If, however, there is a guarantee of redemption, the choice of a source of funds for the purpose will be the same as that for the payment of interest with the additional possibility of simply rolling over the issues, i.e. issuing new series of obligations to retire the existing ones.

The precise combination of characteristics of bond issue and debt management that would be most useful in supporting a comprehensive conservation program will require careful consideration of the several factors noted above by experts in finance, marketing and conservation.

The idea of borrowing sometimes gives rise to apprehension, yet prudent borrowing and careful investment have provided the means for all our development. There are many examples of economies that survived and indeed thrived following periods when the ratio of public debt to GNP seemed much less favourable than that in Canada today. For example those of Canada, the United States and a number of other countries after World War II. Perhaps the most useful closing comment is that of Paul Samuelson, American Nobel Prize winner in economics, who said: "The main way that one generation can put a burden on a later generation is by currently using up the nation's stock of capital goods, or by failing to add the usual investment increment to the stock of capital". It is precisely to relieve that burden and to prevent its further growth that we must find ways now to conserve our soils, waters, forests, fish and wildlife.

David Munro
January 23, 1987

Appendix Report #5

A Proposal for Cooperative Wildlife Research Institutes at Canadian Universities

by

George W. Scotter

A PROPOSAL FOR COOPERATIVE WILDLIFE RESEARCH INSTITUTES AT CANADIAN UNIVERSITIES

George W. Scotter

51st Federal-Provincial/Territorial Wildlife Conference
Tuktoyaktuk, Northwest Territories
June 16-19, 1987

Over 15 million Canadians spent an estimated $4.2 billion in 1981 participating in activities related to wildlife (Filion et al. 1983). The economic impact of these personal expenditures is significant. Taking account of the multiplier effect, they contribute $8.8 billion to Canada's gross business production and support 185,000 jobs annually (Filion et al. 1985). These significant contributions account for a substantial segment of the $18 billion tourist industry. International tourism alone is valued at $4 billion. Wildlife, scenery and outdoor activities were rated by European travellers as important reasons in selecting a vacation in Canada (Tourism Canada 1985). In addition, wildlife contributes substantially to the subsistence of significant numbers of people in Canada. Those impressive figures would be even larger if expenditures relating to wildlife by non-residents and subsistence use of wildlife by natives were included. For example, the meat of caribou used by native people in northern Canada is valued at $65 million annually (Thomas 1985) and the non-resident trophy hunting of caribou in Quebec is valued at $10-15 million (Jackson 1985).

Wildlife is a renewable resource; if it is managed properly the economic benefits that it yields can be sustained indefinitely. Wildlife populations and their habitats are, however, being affected as never before by agriculture, forestry, industrial development and indeed by most human activities. Many wildlife populations are under stress and wildlife habitats are declining in quality and quantity; thus, much of the socio-economic benefit derived from wildlife is at risk or has already declined. For example, the fall flight of mallards declined 40 percent between 1978 and 1985 resulting in the loss of 10,000 jobs and $200 million

in expenditures associated with waterfowl hunting (J.H. Patterson pers. comm.). This economic loss is concentrated in rural Canada which would benefit most by enhanced wildlife-related economic opportunities to diversify the agricultural economy. The viability of this multi-million dollar industry depends on careful conservation and management of wildlife and their habitats and that, in turn, requires sound knowledge based on high quality, broadly defined research programs. It is not enough to be knowledgeable about wildlife itself; it is also necessary to understand the interactions among the different species and their habitat requirements, and to be aware of the effects of human use on the various species and their habitats. The responsibility for management of non-migratory wildlife is largely that of the provincial and territorial governments, but the federal government has some specific responsibilities and a broad mandate to support wildlife research.

Although scientific information is fundamental to the wise use of wildlife resources and their habitats, the ability to conduct effective research in Canada is in jeopardy because of spending restraints. Generally, government funding of research to improve management of wildlife resources is being reduced, not increased (Pollard and McKechnie 1986).

Thus there is an increasing need for research and the present trend to reduce government sponsored research makes it essential to seek new arrangements for research. One possible and potentially important new thrust would be through cooperation of both levels of government with the academic community and the private sector. One possible mechanism for achieving this cooperation is the formation of Cooperative Wildlife Research Institutes at Canadian universities. The Institutes would have

two key characteristics; they would be interdisciplinary and they would be financed by a consortium of supporters. The concept is that a Cooperative Wildlife Research Institute would combine skills of agronomists, biologists, botanists, economists, foresters, geographers, hydrologists, range scientists, social scientists, veterinarians, zoologists and others from university and government agencies, to provide cost effective, high quality research supported by governments, industry and private foundations as well as the universities themselves.

At present there is no system in Canada to plan and coordinate cooperative wildlife research. Establishment of Cooperative Wildlife Research Institutes would ensure that research efforts are fully coordinated and would minimize duplication of effort.

The purpose of this paper is to review the operations and structures of existing organizations with similar goals in Canada and the United States. From an evaluation of those organizations, a model for the establishment of Cooperative Wildlife Research Institutes at Canadian universities is proposed.

SOME EXAMPLES IN THE UNITED STATES

There are institutions in the U.S.A. that are possible models. Two of those, Cooperative Fish and Wildlife Research Units and Cooperative National Park Resource Studies Units, will be considered in detail.

Cooperative Fish and Wildlife Research Units

The nationwide Cooperative Wildlife Research Unit (CWRU) program was established in 1935 to meet the need for trained personnel in the then rapidly-growing field of wildlife management and to provide better technical information for professional wildlife management programs

(Sparrowe 1982, Jantzen 1986). The following briefing statement, succinctly describing that program, was provided by the U.S. Fish and Wildlife Service.

"The Cooperative Fish and Wildlife Research Unit program currently consists of 36 Units at 33 Universities in 31 States. Nine of these are Fishery Units, five are Wildlife Units, and 22 are combined Fish and Wildlife Units. The present policy is to form combined Fish and Wildlife Units wherever separate Fishery Units and Wildlife Units have existed at the same university. The process of combination is nearing completion. All new Units are being formed as combined Fish and Wildlife Units.

Each Unit is a cooperative venture among the Fish and Wildlife Service, the State agency responsible for management of fish and wildlife resources, the university where the Unit is located and, in the case of Units with wildlife components, the Wildlife Management Institute. The major function of Units is to conduct research on high priority fish and wildlife resource problems and educate university graduate level resource professionals as part of the process. Fish and Wildlife Service biologists that staff each Unit provide a base of scientific support to form research teams and create synergistic research programs to solve natural resource problems of high interest to the cooperating agencies.

Each Cooperative Unit is governed by a Coordinating Committee composed of a representative of each of the cooperating agencies. The Coordinating Committee develops a directional statement for the Unit that provides broad program guidance to the Unit Leader who acts as the executive officer for the Unit. The committee meets at least once each year to review the on-going program of the Unit and provide direction for the ensuing year. Throughout the year the cooperators are contacted by the Unit Leader as is necessary to provide guidance for new research starts, etc., that cannot be dealt with at the time of the Coordinating Committee meeting.

Much of the research, though not all, is conducted through guidance of graduate students by Unit staff and faculty of the cooperating university. Some research is conducted by the scientists themselves without the involvement of graduate students. Research projects are funded either by funds being made available for specific projects by the cooperating agencies or by funds coming to the university from outside sources for research to be conducted through the Unit. The base Service funding for the Units in FY86 was approximately 4.5 million dollars, practically all of which is used for salaries. Base funds for research are not provided to the Units by the Service. Total annual expenditures for the program have recently approached 19 million dollars because of funds that are contributed to Units, through host universities, for conducting research projects.

Graduate students that work toward their degrees through the Units are selected for entrance to the program via the established graduate student selection procedure of the host university. The Units are viewed as an

integral part of the universities and Unit staff members hold professorships and graduate faculty appointments. The number of students within a Unit is dictated by available funding for research support and the time available for Unit staff to provide guidance. Unit staff handle similar numbers of graduate students as that expected for any university professor.

The Fish and Wildlife Service provides significant guidance for the type of research to be done by Units through formal and informal input to the Coordinating Committee and by making funds available for research on specific high priority information needs through regional offices, research centers, etc. Formal input is through the official representative to the Coordinating Committee but there is also a great deal of informal input provided through Service Regional office representatives that are invited to attend the annual Coordinating Committee meetings. Recent analysis of actual research being done at Units showed that nearly 80 percent of the on-going projects were being conducted on topics of significance to the Fish and Wildlife Service. The capability of the Units to help focus expertise of the various university faculties on topics of importance to the Service is an additional value to the Service. The research expertise of Unit personnel is considered an integral part of the research capability of the Service.

The Units are used extensively for providing technical assistance to the Service as needed to focus expertise and available information on specific problems. The ability of the Units to bring to bear the expertise of other university professors on specific problems of the Service is an additional benefit. The Units are frequently used for conducting workshops, symposia, in-service training for individuals, etc., and the expertise of other university faculty is frequently involved in these efforts. Consultations about specific Service problems are frequently conducted by Unit personnel and the cooperating faculties.

Graduate student education that is carried out through the Units has been, and continues to be, a major source for obtaining highly trained personnel for employment by the Fish and Wildlife Service, as well as by State fish and game agencies."

In addition to the base funding support of approximately $4.5 million for administration of the units, the U.S. Fish and Wildlife Service supports approximately $5.0 million of research which relates to its mandates. Therefore, about half of the total support for the CWRU program comes from that one agency.

Currently 32 states have CWRUs; eight other states have made applications to the U.S. Fish and Wildlife Service for similar units (W.R.

Goforth pers. comm.). Some states have not participated because they have their own research capabilities, because funding is not available, or because there are no graduate programs in wildlife management within their universities.

The CWRU program is a good idea whose value has been repeatedly demonstrated during more than 50 years of quality research, education and extension. It has graduated thousands of students who have entered all levels of governments, universities and the private sector. Currently, CWRUs are engaged in more than 600 projects, ranging from short-term studies by individual graduate students to sophisticated, interdisciplinary investigations involving many participants (U.S. Fish and Wildlife Service 1984). The natural resources of the United States are being well-served by that program which has powerful professional and political support.

Cooperative National Park Resources Studies Units

In the late 1960s, the limited number of scientists in the National Park Service (NPS) could not provide the natural and social scientific projects required by the Service; therefore a program of Cooperative Park Studies Units (CPSUs) was established in 1970 (Agee et al. 1983). The CPSU concept embraces teaching, research and extension on a cooperative basis with universities. The first unit was created at the University of Washington at Seattle. The NPS now has 18 active CPSUs in 8 regions, employing 33 staff. Funding for 1984 from NPS was approximately $2.2 million. It is not considered worthwhile to run a CPSU on less than $80,000 per year. A moderate sized CPSU of $150,000 to $250,000 per year was considered to give the best funding return.

The CPSU programs are based on the research needs identified in the Resources Management Plans, Visitor Use Plans, Interpretive Plans of each region's parks or as special regional needs. The activities at each institution are supervised by either a government or university scientist; in some cases the university scientist is a co-equal with a NPS scientist. The Regional Chief Scientist, who is responsible for the overall regional science program, coordinates the work of his park scientists with that of the CPSU's programs. That person is the contracting officer's representative for contracts let to each CPSU in the region, and is responsible for making the proper budget requests each year in order to fund the regional program.

In addition to conducting natural and social science research, the CPSU provides technical advice and professional services as required by the parks or regional offices (Johnson 1986). Furthermore, the CPSU program provides information for use in solving management problems and for the Resources Basic Inventory of each park.

Important reasons for having NPS scientists in colleges and universities are the opportunities they gain in teaching, participating in seminars and supervising graduate student research, as well as being stimulated toward excellence and exposure to new ideas. At the same time, association with researchers in all fields of science provides the NPS scientists with convenient access to information needed to solve today's complex natural and social resource problems--problems that must be investigated from a multidisciplinary approach. The large libraries and complex equipment required for such studies cannot be provided by each NPS park or region. Therefore, CPSUs provide invaluable resources for today's researchers, often through cooperation with universities.

A recent internal assessment of CPSUs found them to be productive and to make good use of a centralized workforce to produce benefits in a number of areas. They supplement the limited number of NPS scientists with a wide diversity of professional disciplines and provide cost-effective research. In terms of both effectiveness and efficiency, the NPS benefits greatly in having libraries, computers and staff available to meet its research needs.

SOME EXAMPLES IN CANADA

In an attempt to strengthen shared approaches to natural heritage research, planning and management, several universities and heritage agencies have recently developed cooperative programs. A few of these will be reviewed.

Heritage Resources Centre

In 1983, Environment Canada Parks (ECP) and the University of Waterloo initiated a 3-year pilot agreement to promote research, education and information pertaining to the planning and management of national parks and equivalent areas (Carruthers 1985a). ECP provided the salary of a liaison officer on campus, and a budget of $19,500 for a part-time secretary, student interns and some administrative costs. The University of Waterloo provided office space, word processing equipment, telephones and the assistance of 13 professors to attend monthly management meetings and work on cooperative projects. A recent evaluation resulted in extension of the pilot project for 2 more years, and the exploration of options for extending the program to other colleges and universities provided no new funds were required (Carruthers 1985b).

Despite rather meager funding, the accomplishments of the program are impressive. They include 24 public lectures; 13 related T.V. shows and video tapes; 6 occasional papers; 2 technical papers; 6 professional development workshops; establishment of a liaison office; staff exchanges; 3 sets of selected readings compiled and sent to park level staff; 22 student internships; increased number of studies undertaken at Waterloo University that are being directed towards the interests and needs of ECP; increased information sharing on a continuous basis; help with 2 ECP training sessions; a course booklet produced and distributed to ECP staff; 15 projects involving ECP funding; development of networking efforts with other universities throughout Ontario as well as with conservation agencies; increased individual efforts by university faculty in relation to ECP issues; and benefits to students by lecturing, counselling, consultations and stimulation of awareness and understanding of ECP and heritage conservation issues (Carruthers 1985b, J.A. Carruthers pers. comm.).

Carruthers (1985a) listed the benefits of the Heritage Resources Program as follows:

"...more knowledgeable graduates; constituency building; curriculum development; coordination and dissemination of research results; better utilization of academic resources; direction for university research; reference materials availability; funding sources; student placement; field study areas; more practical and meaningful graduate and under-graduate study programs; more "in-touch" professors; access to better research facilities and environments; a pooling of resources; cost-effective increased scientific productivity; training of park staff; interpretation and extension; environmental monitoring; problem solving; constant flow of information; specialized help; scientific review services; publications; input into planning and management decisions; among others."

Unfortunately, the liaison office does not have control of funds that could be used to stimulate research relevant to needs of ECP other

than through individually negotiated contracts. This is a major weakness of the program. Both Carruthers (1985b) and Meis (1986) have made recommendations for continuing and expanding ECP cooperative and collaborative arrangements with the universities. They have emphasized that senior management should view cooperation between ECP and universities as essential in realizing the long-term mandate of ECP as well as its shortand mid-term organizational needs.

Recently ECP signed cooperative agreements with Acadia University at Wolfville, Nova Scotia, and Memorial University at St. John's, Newfoundland, but neither liaison officers nor funding are provided by ECP under those agreements. Areas for possible resource sharing have been agreed to and ECP will maintain contacts through a field responsibility centre or a regional office.

The Natural Resources Institute, University of Manitoba

The Natural Resources Institute was established at the University of Manitoba in 1968 with a threefold mandate:

1) To teach resource management skills leading to the Master of Natural Resources Management degree.
2) To conduct applied research on current problems in natural resource management.
3) To provide a forum for examination of resource issues in order to raise the level of public awareness.

The Institute strives to direct the wealth of knowledge and experience in the university community to the resolution of resource problems. The objective of the program is to train professional resource managers who will have an understanding of the complex nature of natural

resources and the skills to manage them in the social and economic climate of the future (Natural Resources Institute 1986). Students are encouraged to develop an integrated view of all resources and an active understanding of the contributions of resource management to our economic well-being. Members of the University outside the Institute, as well as colleagues from all levels of government, industry and non-governmental organizations, are active in the work and funding of the Institute. Some federal and provincial government employees serve as adjunct professors.

The Natural Resources Institute was funded by the Ford Foundation for the initial 5-year period on the understanding that the costs in future years would be provided by the university. It currently has 3 full-time faculty members, 1 part-time member and about 12 other staff members who assist with approximately 50 graduate student projects. The present budget of the Institute is about $200,000 for administration and $400,000 for research. The principal benefits to funding agencies are quality reports at minimal cost and the opportunity to hire well-trained staff.

Westwater Research Centre, University of British Columbia

In 1971 the Board of Governors of the University of British Columbia (UBC) approved establishment of the Westwater Research Centre.

The Centre is guided by the following basic policies (Westwater Research Centre 1972, 1973):

1) To focus upon problems associated with preserving and enhancing the quality of the water environment.
2) To endeavour to provide an improved foundation for decisions about policies and institutional arrangements through studies of the water environment.

3) To seek to be a catalyst in conceptualizing and conducting interdisciplinary research.

4) To undertake research directed to the needs and interests of the people of Canada in general and of British Columbia in particular.

The Centre is a catalyst in cooperative efforts in multidisciplinary enquiries which extend beyond the scope of a single discipline. The general management of the affairs of the Centre is the responsibility of the Centre Council composed of residents of British Columbia appointed by the Board of Governors of UBC. An Executive Committee of the Centre appointed from the membership of the Council is responsible for day-to-day management of the Centre.

Where a government agency and the Centre have a common interest, they may enter into cooperative arrangements for research. Also, the Centre welcomes arrangements for assignment of employees from a public agency or a private organization to work on a Centre project. Noteworthy too is that much of the funding for the Centre, during the first 5 years of operation, came from an Environment Canada development fund grant. The initial funding was $180,000, reducing in later years. At the end of the first 5 years the Institute was responsible for finding other funding sources. The current budget of the Institute is approximately $500,000 with one-third coming from the University and two-thirds from various sources.

Students are employed as research assistants on the Centre's projects and may be supported for work on their Master's theses or Doctoral dissertations.

MECHANICS OF ESTABLISHING COOPERATIVE WILDLIFE RESEARCH INSTITUTES AT CANADIAN UNIVERSITIES

One of the more successful programs of those reviewed is the Cooperative Fish and Wildlife Research Units established by the U.S. Fish and Wildlife Service. This program should form the blueprint for developing a similar "Made in Canada" program that recognizes our social, legal and fiscal differences.

The remainder of this paper considers Cooperative Wildlife Research Institutes from the standpoint of purpose and objectives, benefits to be gained, number required and distribution, staffing, funding arrangements, management and evaluation.

Purpose and Objectives

Cooperative Wildlife Research Institutes would provide management agencies with research required to maintain and manage wildlife populations at appropriate levels, and which the agencies could use to promote the wise use of wildlife[1] through sound management and education as set forth by the World Conservation Strategy (International Union for the Conservation of Nature and Natural Resources 1980) and Guidelines for Wildlife Policy in Canada (Minister of the Environment 1982). The purpose of the Cooperative Wildlife Research Institutes would be to solve specific, current and anticipated management problems with mission-oriented research reflecting a primary concern with the social and economic values of wildlife and allied resources. Cooperative Wildlife Research Institutes

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[1]All non-domesticated animals, including their habitats, but excluding fishes. Fishes were excluded because they are not within the mandate of Environment Canada and because their management is the responsibility of several different agencies within federal, provincial and territorial governments.

would be associations of researchers, educators and graduate students with interests in mission-oriented wildlife research. The goal of such Institutes would be to provide wildlife related benefits to the public through quality research.

Proposed objectives are:

1) To undertake cooperatively supported research to solve problems related to the production, use, protection and restoration of wildlife populations, thereby enhancing the capacity of federal, provincial and territorial governments and other agencies to manage wildlife resources and their habitats.
2) To enhance understanding of the aesthetic and economic values of wildlife by investigating their socio-economic aspects and exploring ways of maximizing them.
3) To train technical and professional staff, primarily at the graduate level, in the fields of wildlife research, wildlife management, ecology and environmental studies; and to provide retraining opportunities for staff of wildlife agencies.
4) To develop integrated resource research teams to study multidisciplinary problems of managing lands for timber, wildlife, water, agriculture, recreation and other socio-economic needs.
5) To make recommendations based on research findings to governments, industry, landowners, other organizations and various wildlife users.
6) To provide advice and conduct research on wildlife management problems in developing countries, as requested; and to provide advanced training for wildlife managers from those countries, as the need arises, in cooperation with Canadian international development assistance programs.

7) To develop cooperative research programs on transboundary wildlife populations with other countries and agencies.

Cooperative Wildlife Research Institutes should comply with the best traditions of academic research. They should adhere rigorously to scientific methods and reflect high standards of objectivity. They should not seek to monopolize wildlife research in a region, but should welcome and encourage research by others. Cooperative Wildlife Research Institutes should be oriented towards management rather than the pursuit of knowledge for its own sake. It is important that participating universities recognize that the basis of involvement by wildlife agencies in such cooperative activities is fundamentally one of self-interest (Maxwell and Currie 1984). A special effort should be made by each Cooperative Wildlife Research Institute to work with all interested parties in deciding upon research needs and in providing information on research results. Cooperative Wildlife Research Institutes will create a stimulating environment that encourages spontaneity, perpetuates innovation and provides the means to put ideas into action. Faculty participation would be voluntary; academics, other than the Institute director, will work with, not for, the Institute. Topics worthy of study would be a matter of negotiation with participating agencies.

Benefits to be Gained

The benefits to be derived from closer working relationships among governments, universities and others by the establishment of Cooperative Wildlife Research Institutes are numerous. Advantages would include, but are not limited to, the following:

1) New funds would be attracted to support research. For example, the U.S. Fish and Wildlife Service funding of $4.5 million for administration and about $5 million in support of its own research needs at CWRUs during 1986 resulted in a total research expenditure approaching $19 million. Similar leveraged opportunities should be possible in Canada.
2) Association among universities, government agencies and the private sector would enhance the application of rigorous scientific methods to mission-oriented research.
3) The proficiency of wildlife agency staffs would be enhanced, and staff perspectives broadened, by association with the university community. Similarly, the experience of university students and staff would be enhanced by exposing them to applied research and management, thus complementing the theoretical knowledge received in formal courses.
4) These Institutes in conjunction with a national steering committee would provide a mechanism for the stimulation and coordination of multidisciplinary wildlife research in Canada; no such mechanism presently exists.
5) Sharing of equipment and facilities - including computers, libraries and expensive almost "one of a kind" equipment - would reduce costs.
6) Cooperative Wildlife Research Institutes would provide training for biologists and land managers from developing countries funded by agencies such as World Wildlife Fund, World University Services Canada, Canadian International Development Agency, International Union for Conservation of Nature and the Food and Agriculture Organization.
7) Research projects would be less expensive than those of government because much work would be done by graduate students at less cost than

comparable personnel outside the university. Also, there would be no additional charges to governments for project review and supervision by professors.

8) Cooperative agreements between universities and other institutions, some not available to governments, could be utilized by Cooperative Wildlife Research Institutes.

9) University "overhead" normally charged to government contracts may be reduced or eliminated by negotiation.

10) Cooperative Wildlife Research Institutes can offer a great diversity of expertise not normally available within a single government agency. They can draw on faculty and students from a number of different disciplines, for short- or long-term, complex research projects or for consulting.

11) Institutes would enhance university instructional programs through part-time teaching assistance by Cooperative Wildlife Research Institute personnel.

Number Required and Distribution

Cooperative Wildlife Research Institutes could be established on a regional, national, centre of excellence or ecological/geographical basis. Since many wildlife research needs are regional in nature, the establishment of Cooperative Wildlife Research Institutes on a regional basis is recommended. Regionalizing on an ecological/geographical basis is not considered feasible because provincial and territorial boundaries do not coincide with ecological/geographical ones. Initially, 5 Cooperative Wildlife Research Institutes should be established for a 10-year experimental period at universities that currently have strong

interests in natural resource management. It is suggested that Cooperative Wildlife Research Institutes be distributed to serve British Columbia/Yukon; the Prairie Provinces/Northwest Territories; Ontario; Quebec; and Newfoundland/Maritime Provinces.

Staffing

The CWRUs in the United States and the Heritage Resources Program at the University of Waterloo are staffed by federal government employees. A number of advantages stem from government involvement including knowledge of their operations, potential funding support and identification of national research needs. In the U.S.A., some CPSUs are operated with federal staff and some are operated without, although a recent assessment indicated they would function more efficiently with the presence of federal employees (Carruthers 1985a).

The Minister of Environment Canada, under section 3(c) of the Canada Wildlife Act, could assume leadership in wildlife research by offering to second staff members as Institute directors, at least for the initial experimental period of 10 years. Although the salaries and benefits of the directors would be provided by Environment Canada, each director should have a faculty appointment, be responsible to the university department concerned and be fully integrated into the university system. Setting of goals and an annual appraisal for each director should be undertaken jointly by the responsible university department head and a director of the Canadian Wildlife Service. A standardized agreement should be prepared for the establishment and operation of Cooperative Wildlife Research Institutes. It should be sensitive, simple and general enough to allow variation in arrangements at different universities.

Environment Canada could meet personnel requirements by secondment of present staff, provision of new person years, activation of the Public Service assisted arrangement for University Senior Research Fellowships or possibly through Industrial Research Chairs of the Natural Sciences and Engineering Research Council.

Directors of Cooperative Wildlife Research Institutes should be selected carefully in concert with the universities and other cooperators. Candidates should have demonstrated administrative skills, the ability to generate outside funding, and academic and scientific credentials acceptable to universities. A high level of communication skills will be essential to establish networks among governments, universities, the private sector and national interest groups. The directors should serve primarily as facilitators of the research of others. Staff members from all cooperating wildlife agencies would be encouraged to participate in multidisciplinary research projects based at the Institutes, either on a temporary basis or as part-time participants. Depending on their level of training, experience and their acceptability to the university, they could be appointed as research associates or adjunct professors.

Funding Arrangements

The research programs of the Cooperative Wildlife Research Institutes would consist of three parts, each of which would require funding as follows:

1) Administration, provided by an Institute director with an office, secretary and administrative support.
2) A core program of long-term research coordinated by the Institute using graduate students, contractors and research associates.

3) Special research projects as part of the ongoing activities of each Institute to be conducted by graduate students and others in affiliated universities in response to the priority needs and in support of industry and government.

Parts 1 and 2 would be most efficiently met by annual core grant funding. The minimum requirement for the successful operation of a Cooperative Wildlife Research Institute is estimated at $125,000 per year if the directors were seconded and salary and benefits provided by Environment Canada, or $200,000 per year if staff are recruited through the universities. In addition, $50,000 for capital expenditures would be required for the first year only. In recognition of the national and international significance of wildlife, Environment Canada should be responsible for the annual core funding, the initial capital requirement and for negotiating the initial agreements with the participating universities. The amount of federal core funding should be considered as a minimum target to be matched or exceeded by other cooperators.

Housing of the Cooperative Wildlife Research Institutes should be provided by the university associated with each Institute. In addition, each university should provide access to the library, mainframe computer, storage and other special facilities as defined and agreed. Such services, in addition to faculty members' time, are a distinct and measurable cost to the universities and would constitute a significant financial contribution from the university community in support of wildlife research.

Grants and contracts with industry, governments, conservation organizations and foundations with specific wildlife management concerns and research needs would be used to fund Part 3 special research projects.

The financial support of provincial and territorial governments should be voluntary. The amount of funding that might be provided would vary with the research needs of each agency and its in-house research capability. In the United States, one state contracts with the CWRU for all its research needs, other states use CWRUs hardly at all, but most states fall between those extremes (Jantzen 1986). Provincial and territorial governments should be required to contribute only to projects that they are interested in and should not be expected to cover general administrative costs.

The potential for support from cooperating federal government agencies is not limited to the Canadian Wildlife Service. ECP, Agriculture Canada, Canadian Forestry Service, Fisheries and Oceans and Indian and Northern Affairs Canada all have wildlife-related research needs that from time to time could be addressed by the Institutes.

Potential cooperators and supporters among non-government agencies include the Canadian Wildlife Federation, Ducks Unlimited Canada, Wildlife Habitat Canada, World Wildlife Fund (Canada) and Delta Waterfowl Research Station, among others, and a wide range of foundations and industrial organizations.

Management

Since the Cooperative Wildlife Research Institutes are to be run as a national program, there should be a national steering committee as well as a management board for each Institute. Establishing policy guidelines and providing leadership on setting priorities should be the main responsibilities of the national steering committee. In addition, the steering committee should coordinate activities of the proposed

Institutes by providing overall direction and evaluation. The national steering committee should be composed of 7 members - 2 from the federal government, 2 from provincial or territorial governments, 2 from universities and one from a financially-supporting, non-government organization. It could be an independent committee reporting annually to the Federal-Provincial/Territorial Wildlife Conference.

Each Cooperative Wildlife Research Institute should be governed by a management board composed of representatives from the university, governments and non-government entities which contribute to it. The chairman of the board would be selected from the contributing members and the Institute director would be an ex officio member. The duties of the management board will be as follows:

1) To establish policy and direction for the Institute, subject to the broad guidelines of the national steering committee.
2) To solicit, accept and allocate funds.
3) To determine research priorities for the Institute.
4) To facilitate and coordinate research of the Institute.
5) To report annually, through the chairman of the management board, to the dean of the affiliated university faculty, to the national steering committee and to other participating organizations.

Evaluations

The Cooperative Wildlife Research Institutes should be subject to an extensive evaluation after 5 years of operation to determine if there are needs for significant redirection over the next 5 years. A final evaluation at the end of the 10-year period will assist in making a

decision to extend the program by renegotiating the agreements with the universities, to cancel the program, or to expand to other universities. One of the principal functions of the national steering committee would be to arrange for these evaluations.

CONCLUSIONS

A major thrust of governments today is to encourage increased involvement of other organizations in their activities. The Cooperative Wildlife Research Institute concept responds well to that thrust. The synergistic effect on funding and production of results from similar cooperative activities is well documented. Given the present circumstances of fiscal restraint within governments, closer working relationships among organizations and a pooling of expertise and financial resources is becoming increasingly important.

What better way would there be to celebrate the first century of wildlife conservation in Canada than by establishing Cooperative Wildlife Research Institutes at Canadian universities to provide the information base necessary for wildlife conservation and management during the second century? Such an information base is essential if the contributions of wildlife resources to society are to be maintained or increased and if the goals of sustainable development are to be realized.

It is, therefore, strongly recommended that Environment Canada assume national leadership to initiate and support establishment of at least 5 Cooperative Wildlife Research Institutes in Canada with the support of other levels of government, universities, wildlife organizations and the private sector.

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Appendix Report #6

Cooperative Management Opportunities

by

J.H.C. Walker

and

L.J. Foubister

COOPERATIVE MANAGEMENT OPPORTUNITIES

Cooperative wildlife management in Canada is taking place between the federal government, provincial and territorial governments, non-government organizations, and the general public. For example, migratory waterfowl are managed jointly by the federal and provincial governments. The North American Waterfowl Management Plan, signed by Canada and the United States in June of 1986, calls for the cooperative management of waterfowl by all the jurisdictions in the two countries, as well as special interest groups. Endangered species are also a concern of both levels of government. The Committee on the Status of Endangered Wildife in Canada (COSEWIC) involves the ten provinces, two territories, four federal agencies, and three non-government organizations. Arrangements among provinces include the joint management of the Beverly-Kaminurak herd of barren ground caribou by the governments of Saskatchewan, Manitoba, the Northwest Territories, and Canada. Within a province, the agreement on prescribed burns for wildlife habitat enhancement between the British Columbia Ministries of Environment & Parks and Forests & Lands is an example. The general public and special interest groups are involved in National Wildlife Week, which promotes awareness of wildlife.

The two main reasons for the establishment of cooperative activities for wildlife management are overlapping jurisdictions, such as occur between the federal and provincial governments, and development of mutual objectives and group consensus. A number of advantages result from cooperative wildlife management. Resources, such as funds and manpower, are pooled to achieve more than a single agency could do. As funding for wildlife management becomes increasingly restricted, cooperative wildlife management becomes more of a necessity than an option. Through cooperative management, duplication of effort is reduced and benefits are shared widely. Credibility and accountability are increased as the involved parties can review the activities of each other.

Specialist expertise becomes available to other jurisdictions. And finally, cooperative management on a specific project implies a priority for that project, and so suggests that a consensus has been developed among the various wildlife agencies.

However, cooperative management is not appropriate for all activities. Just as jurisdictional overlaps may necessitate cooperative management, jurisdictional differences at the various levels of government may constrain cooperative management. For example, the wildlife resource is a provincial responsibility and the federal government has jurisdiction only with respect to those species covered by the Migratory Birds Convention Act. Similarly, each province has sole jurisdiction for the wildlife within its borders, and only where wildlife cross boundaries does inter-provincial management become justified. Secondly, legislative constraints may limit available strategies, such as workmen's compensation legislation limiting cooperation between wildlife agencies and the forest industry in leaving wildlife trees. Thirdly, cooperative management is time-consuming. It involves a degree of compromise. Finally, it may commit the parties to long-term involvement, without recognition of changing priorities. Cooperative agreements can become bureaucratically entrenched, and so outlive their usefullness.

Successful arrangements for cooperative wildlife management have similar components. All parties must be committed to the arrangement, in terms of funding, manpower, and goals. Terms of reference should be developed cooperatively, together with specific, measurable objectives. Time deadlines should be in place. The authority granted to the parties involved should be sufficient to achieve the mandate.

Two factors contribute to the need to explore additional opportunities for cooperative wildlife management in Canada. The limited government funding available for wildlife management necessitates efficient use of funds and a broadening of the support

base. Secondly, with today's rapid and widespread communication, wildlife issues are no longer of local impact only. Predator control in the Yukon can affect policies in Manitoba. The extinction of the Vancouver Island marmot in British Columbia is a loss to the world. Wildlife management has global implications.

Opportunities for cooperative wildlife management lie in a number of areas. They include:

1) Development of Joint Policies

If individual cooperative agreements are to be efficient, a common framevork must be established to provide the necessary coordination of the different agreements. The "Guidelines for Wildlife Policy in Canada", published in 1983, were developed cooperatively with the federal, provincial, and territorial governments, together with conservation organizations. They provide a framevork for the consistent and effective management of wildlife in Canada. The "Guidelines" provide nine very general elements, and a number of actions to consider. The actions identified could themselves form the basis of cooperative policies.

The development of joint policies would be also useful in dealing with contentious issues, such as land use, predator control, game farming, acid rain, pesticides, and access management. A unified position on controversial issues would enhance the credibility of wildlife agencies, and information exchange and discussion could facilitate conflict resolution and better solutions. The Federal-Provincial Committee on Humane Trapping is an example of successful cooperation which addressed a controversial issue of international significance.

2) Wildlife Marketing

Marketing wildlife involves identification of the needs of user groups and the provision of wildlife experiences to meet those needs. A strategy to deal with the decline of hunting licence sales across Canada could be developed cooperatively, based on market research.

Cooperative agreements would be useful where concerted actions will benefit wildlife in general. For example, "The Importance of Wildlife to Canadians", prepared by the federal government and a number of provincial governments, provided information that is useful to wildlife agencies and organizations across Canada in promoting wildlife. The report indicated that the vast majority of Canadians are interested in non-consumptive wildlife-related activities. Cooperative arrangements to develop and promote opportunities for wildlife appreciation would help to meet the needs of this large user group.

Cooperative initiatives to promote wildlife appreciation, such as the National Wildlife Week and the Wildlife Centennial, serve all Canadian wildlife, not just one jurisdiction. There is much opportunity for the development of more joint promotion of wildlife at both federal and provincial levels.

Cooperative arrangements with tourism agencies and organizations, both nationally and provincially, help to highlight the link between tourism and wildlife. In British Columbia, liaison between the wildlife agency and tourism agencies is expected to greatly increase the profile of wildlife and establish it as an important component of the rapidly expanding tourist industry.

3. Land Use Agreements and Guidelines

Because wildlife agencies do not control most of the land on which wildlife depend, it is important that they develop cooperative arrangements and guidelines with the agencies which do control the land. In Ontario, for example, the Ministry of Natural Resources developed guidelines for the management of the province's wetlands, with the assistance of the Ministries of Housing, Agriculture and Food, and the Environment. In the Northwest Territories, an informal agreement on principles to guide land use planning was adopted by the territorial and federal governments and native organizations. Local governments have authority over land-use planning and so cooperative arrangements with them are vital. Wildlife agencies have input into many of these local planning exercises.

A large amount of wildlife habitat is on private land. Cooperative arrangements with private landowners are becoming increasingly common. For example, Ontario's Wildlife Extension Landowner Agreement provides for joint management of private land. Appropriate incentives must be determined to ensure the success of such programs. Provisions of grants to landowners or encouraging them to levy fees for use of their land, together with education on user etiquette, may be necessary to initiate wildlife management programs on private land. Jurisdictions in both Canada and the United States are exploring cooperative management with private landowners, and this area is one of great potential.

4. Privatization of Government Functions

The delegation of the responsibility for certain aspects of wildlife management to the private sector is an area rich with opportunity, although by no means universally accepted by the public. In some provinces, government funding restraints have lead to the privatization of many functions traditionally undertaken by

government. In British Columbia, such functions include the training and certification of hunters and the control of problem wildlife. Assignment of discrete functions such as these to the private sector would serve to reduce the drain of manpower and money on wildlife agencies.

In the past, developers have been responsible for monitoring and surveillance of certain projects, such as pipelines and access roads. However, consideration should be given to delegating management responsiblity to the private sector, not just responsibility for inventory, research or monitoring. For example, responsibility could be delegated on a trial basis to forest companies with proven commitment to environmental protection to fully manage wildlife populations on their land. The advantages provided by this delegation of management include improved communication between the private sector and government, a reduced need for government involvement, greater incentives for companies to undertake enhancement activities, continuity of management, and greater wildlife appreciation and accountability by the private companies.

For such an approach to be successful, there must be cooperation and communication among the government agencies, the private companies, and the general public. Objectives and standards would have to be determined and the private companies held accountable to them. There should be a clear understanding that the government agencies will retain management authority over all wildlife species, but the private companies would have responsibility delegated to them for the management of certain species. Such species might be selected because they are abundant, responsive to habitat enhancement, and are in high public demand. This approach would allow government agencies to direct greater resources to the management of other species or areas which require special attention. Another element necessary to the successful delegation of management is the provision of adequate incentives to the private sector. Such incentives might range from increased

flexibility in forest planning through user pay initiatives to receipt of funds that now go to the Crown.

5. Information Exchange

Each jurisdiction collects data of importance to wildlife management, and may have applicablility for other jurisdictions. Modern wildlife management is utilizing high-tech information systems at an increasing rate. National and provincial data systems should be compatible to some degree to facilitate exchange of information about wildlife and its habitat.

Conferences, such as the Federal-Provincial Wildlife Conference, provide a forum for exchange of information. Federal-Provincial conferences have been held on specific issues, such as game farming, and this should continue to allow each jurisdiction to benefit from the experience of another.

SUMMARY

Cooperative wildlife management has many advantages, especially where limited government funding restricts wildlife management and where issues of national significance require consensus. Opportunities for cooperative wildlife management lie in the areas of joint policy development, wildlife marketing, land use agreements, privatization of government functions and information exchange. Development of such opportunities may lead to a reductien in the traditional "span of control" of the wildlife agency but will only serve to benefit wildlife in the long-term.

J.H.C. Walker
L.J. Foubister
May, 1987

Appendix Report #7

Cooperative Management and Sharing of Expertise

by

Jean Cinq-Mars

COOPERATIVE MANAGEMENT AND SHARING OF EXPERTISE

by
Jean Cinq-Mars
Canadian Wildlife Service - Quebec Region

The largest portion of the resources devoted to wildlife conservation undoubtedly goes to human resources. Our employees are the driving force behind our organizations. Accordingly, when we address the issue of cooperation in wildlife management, it is important to give proper attention to the development of personnel and the establishment of links between wildlife professionals in different organizations.

The resources allocated to wildlife programs are scarce for all government wildlife organizations in the country. Thus, some organizations have difficulty recruiting specialists who can provide them with the necessary knowledge and expertise to deal with specific situations because of restrictions affecting recruiting. At the same time, wildlife management is increasingly becoming an open management area where various jursidictions must share approaches and management philosophies as well as efforts and budgetary resources for the common good. The development of humane trapping techniques and the adoption of the North American Waterfowl Management Plan are two conclusive examples. It has thus become necessary to encourage understanding and cooperation among the various wildlife conservation organizations at all levels of government as well as the non-governmental organizations working in this field. The development of personal contacts between the members of different organizations can only help to promote collective management of a collective resource.

A number of mechanisms can be used to facilitate exchanges. The examples that follow are not exhaustive but suffice to illustrate the approach generally used.

a) Interchange Canada

An official mechanism entitled "Interchange Canada" has been set up to promote exchanges of senior officers and professionals between the federal and provincial public services. This program also applies to private enterprise. The organization that sponsors an employee seconded to an outside organization continues to pay the employee's salary and contributes for benefits, but the host organization reimburses these expenses. The sponsoring organization must guarantee that the employee will be assigned a position within this department when he returns.

b) Exchanges by reciprocal agreement

Two governments can agree to exchange an equivalent number of employees. This procedure does not call for reimbursement of expenses or salaries since the costs are practically the same for both parties.

c) Lending of services

A government may require the services of an expert but not be in a position to provide personnel in exchange. The host organization usually enters into an agreement stipulating that it will reimburse the cost of salary, benefits, and other related expenses to the sponsoring organization.

Other variations exist, but the above examples outline the principles generally applied.

Appendix Report #8

Overview: Potential Funding Mechanisms for Integrating Wildlife Habitat Activities

by

Wildlife Habitat Canada

OVERVIEW

POTENTIAL FUNDING MECHANISMS FOR INTEGRATING WILDLIFE HABITAT ACTIVITIES IN CANADA

or

Why are we talking nickels and dimes?

Prepared by
Wildlife Habitat Canada

with the assistance of
P.B. Dean and M. Gawn, Consultants
May, 1987

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1. INTRODUCTION

"While science and technology have propelled us into a new and exciting era in which future vision are rapidly becoming current realities, our political attitudes and institutions are still rooted stubbornly in the past". (Maurice Strong - Speech to Harvard University on the WCED)

Canadians are increasingly aware of the seriousness of environmental issues. Environmental problems are occurring more frequently, with greater complexity and with greater consequences. At the same time, we are becoming increasingly aware of their true costs.

The economic discussion has centered on the costs and impact of adequate mitigation rather than rehabilitation of degraded environments. These latter costs will, for the most part, be paid by future generations even though it is more economical to pay now. Canadians are demonstrating a willingness to pay for integrating environmental concerns into development activities and for rehabilitation mechanisms to prevent further degradation.

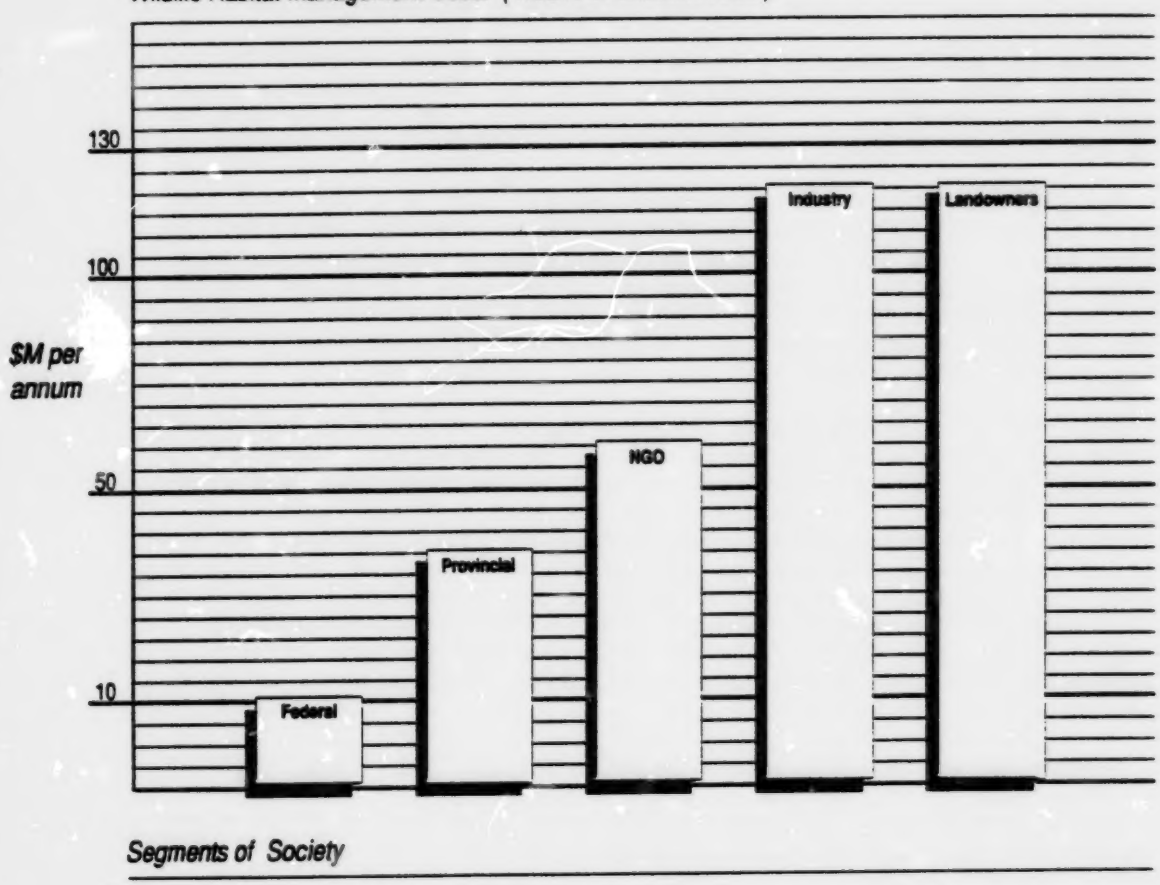
In light of increased public interest and the opportunity for stimulating economic growth in Canada through environmental management by industry, it is an opportune time to examine the true costs and benefits of environmental protection. Are the many high cost enviromental programs of government, often borne by industry, really focused and additive to achieving the goal of retaining the quality of the environment? Or are they piecemeal, fragmented and often conflicting with other economic forces ensuring only superficial attention to the environment? Have the present programs been assessed in their ability to achieve specific goals; and if so, on a site specific basis or on an integrated land use basis?

Looking after our environment is not cheap. Many western nations spend as much as two percent of their Gross Domestic Product on environmental management. In Canada, this would translate to about eight billion dollars annually, about as much as we now spend on higher education, or put another way, a quarter of our gross annual investment.

In comparative terms, the benefits of wildlife management expenditures by governments in Canada show a very high economic return. A current investment of $50 million annually to retain the wildlife base, the habitat, ensures a $4.2 billion annual economic industry from wildlife to Canadians (almost a 1 to a 100 ratio).

The abundance, diversity and distribution of wildlife habitat is a clear reflection on the quality of the environment. It is a key indicator of the success of environmental programs. It is also the base for the abundance and diversity of wildlife in Canada. The main reason for the decline of many species of wildlife and subsequent opportunities for Canadians. It is the main focus of attention by all wildlife interests across Canada. This review will provide an overview of potential funds available from programs which affect wildlife habitat. This review is one component of the follow-up to the Colloquium on Wildlife Conservation in Canada, held in Ottawa in May, 1986. The Colloquium, in turn, is one of a number of recent reviews of the Canadian environment.

Wildlife Habitat Management Costs *(Neave & Goulden 1983)*



2. CURRENT BASE FUNDING OF WILDLIFE HABITAT ACTIVITIES IN CANADA

Summary

Governments in Canada spend about $50 million per annum on wildlife habitat management. Non-government agencies contribute an approximately equal amount. In total, this is only about 1% of the value of wildlife to Canadians estimated to the $4.2 B annually.

Additional Points

- Government in Canada spent $597 M on fish and wildlife programs in 1982. Enforcement, administration and resource allocation account for a large share of expenditures. Eight percent was spent on retaining the resource base, the habitat. Environment Canada will spend $28.1 M on wildlife conservation in 1987-88. Of this, less than $2.5 M or 9% will be directly spent on habitat programs.

- This lack of investment in protecting and enhancing this resource is partially due to the interaction of the economic and social values into broad economic values.

- While there was rapid growth in government wildlife management budgets in the 1970's, there is little potential for real growth, after inflation, in the 1980's.

- Government commitment to wildlife agencies effort in habitat protection was weakened in the 1970's by the growth of environment ministries which have continued to dominate the environmental agenda in the 1980's.

- Current habitat management programs are reactive, concentrating on protection mechanisms, rather than a balanced approach between policy and legislative integration through to rehabilitation and monitoring.

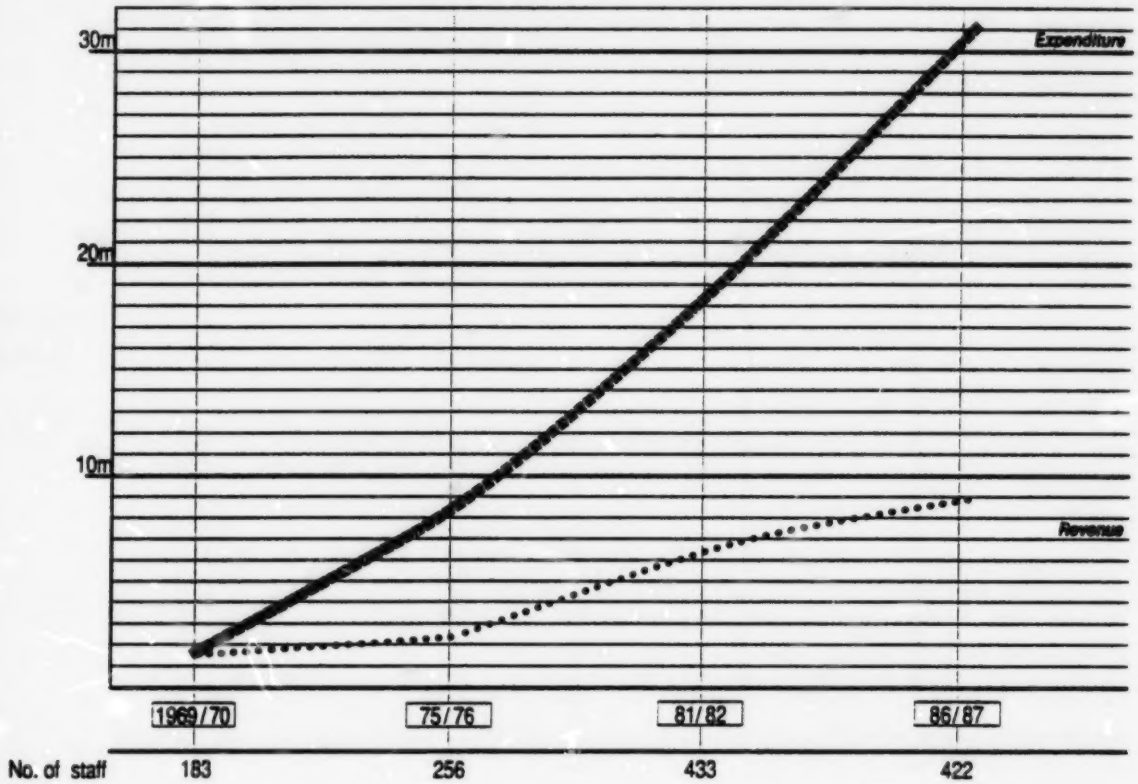
- Industry by paying mitigation and landowners (both private and crown) who have lost opportunity costs contribute a much larger proportion of habitat management funding than governments or non-government organizations combined. The estimated costs of $500 M annually should be examined to assess the benefits of current mitigative expenditures to habitat goals.

Recommendations

- Given that a major increase in the funding of wildlife habitat programs is improbable, there is a need to focus existing programs more clearly. Base funding for wildlife habitat activities should be focused to ensure the maintenance of minimum levels of the various habitats required to achieve wildlife goals.

- The mitigative costs to industry and the lost opportunity costs to the landowner and crown need to be assessed relative to achieving regional and site specific goals. Considerable funds could be obtained from industry with a greater rationalization of approaches.

Relationship of Revenue to Expenditure - Fish and Wildlife Management in Alberta *(Neave 1987)*



3. NEW FUNDING MECHANISMS FOR CANADIAN WILDLIFE AGENCIES

Summary

The "user pays" concept is already in effect in Canada and could add considerable additional revenue to the conservation of wildlife habitat.

Addditional Points

- Government expenditure on wildlife management has exceeded revenue every year since the late 1960's.

- In 1981, Canadians spent $4.2 billion on wildlife related activities. However, Canadians have traditionally treated wildlife as a virtually "free" commodity and "user pay" concepts have yet to be fully developed.

- Many mechanisms largely reflecting a "user pay" philosophy exist to transfer more funds to wildlife habitat management. A number of these are addressed in other papers of the Colloquium Task Force :

  An excise tax on outdoor related equipment and supplies would provide for contributions to wildlife habitat programs from a broad spectrum of users;

  User fees, such as access fees, are a direct application of the user pays principle;

  Income tax checkoff schemes, by which a portion of an individual's income tax return is dedicated to wildlife conservation, are employed in some thirty-eight states in the USA;

  Conservation Bonds allow individuals to invest in wildlife - the four states that use this mechanism have collectively raised over one billion dollars;

  Government lotteries represent a significant source of discretionary revenue available to provincial governments;

  Wildlife stamps and coins can be sold to raise funds.

- Unlike other resource sectors, wildlife does not have a strong vested industry that protects their interest and ensures compensating mechanisms. The crown therefore is both responsible for producing and marketing wildlife, acting both as judge on land-use disputes and proponent of habitat.

Recommendations

- The user pay concept should be further advanced in Canada to achieve additional habitat goals above a minimum threshold.

- The user pay concept must be equitable and all-encompassing to those who benefit directly and indirectly from the wildlife resource.

EXAMPLES OF ADMINISTRATIVE ARRANGEMENTS CURRENTLY IN PLACE FOR WETLAND CONSERVATION IN CANADA

Title	Cooperating Agencies	Term	$	Acreage
Pacific Estuary Conservation Program	British Columbia Government Ducks Unlimited Canada Wildlife Habitat Canada The Nature Trust	3 yrs	$2.34 million	18,000
Wetlands for Tomorrow	Alberta Government Ducks Unlimited Canada	20 yrs.	$10 million	985,000
Alberta Habitat Retention Program	Alberta Government Wildlife Habitat Canada	3 yrs		
Saskatchewan Heritage Marsh Program (Phases 1, 2, 3)	Saskatchewan Government Ducks Unlimited Canada Wildlife Habitat Canada Sask. Natural History Society Sask. Wildlife Federation	10 yrs.	$35 million	311,000
Saskatchewan Prairie Pothole Project	Saskatchewan Government Wildlife Habitat Canada Government of Canada (Agriculture & Environment) Ducks Unlimited Canada	5 yrs.	$1.05 million	18,000
Manitoba Heritage Marsh Program	Manitoba Government Manitoba Wildlife Federation Manitoba Naturalist's Society Wildlife Habitat Canada Ducks Unlimited Canada	5 yrs	$66 million	470,000
Habitat Enhancement and Land Use Project (HELP)	Manitoba Government Wildlife Habitat Canada Ducks Unlimited Canada	8 yrs	$3 million	143,260
Ontario Wetlands Habitat Agreements	Ontario Government Wildlife Habitat Canada Ducks Unlimited Canada	3 yrs	$3 million	★
Carolinian Canada	Wildlife Habitat Canada Ontario Government World Wildlife Fund	3 yrs.	$3.6 million	★
Quebec.Wetlands Habitat Agreement (pending)	Wildlife Habitat Canada Ducks Unlimited Canada Government of Quebec Quebec Wildlife Federation	5 yrs	$17.6 million	★
New Brunswick Wetlands Agreements	New Brunswick Government Ducks Unlimited Canada Wildlife Habitat Canada (pending)	5 yrs.	$6.6 million	★
Nova Scotia Wetlands Agreement	Nova Scotia Government Ducks Unlimited Canada Wildlife Habitat Canada	5 yrs.	$2 million	★
P.E.I. Watershed Management Agreement	P.E.I. Government Wildlife Habitat Canada	5 yrs	To be determined	22,000
		TOTAL	$167 million +	1.9 million acres +

★ Specific sites presently under negotiation.

Note: There are many other examples of wetland conservation initiatives throughout Canada. Ducks unlimited has entered into bilateral agreements with all other provincial governments (except Newfoundland) and the Yukon Territorial Government to conserve and restore wetland habitat.

4. FUNDING OF COOPERATIVE HABITAT PROGRAMS BETWEEN GOVERNMENT AND NON-GOVERNMENT WILDLIFE AGENCIES

Summary

Currently, non-government agencies spend approximately $50 M annually on wildlife habitat activities.

Additional Points

- There are about three hundred non-governmental wildlife groups at the local, provincial and national level.
- Support varies from major financial commitments by sportsmen for wetland habitat development to local volunteer clubs carrying out small scale projects.
- There are many cooperative ventures between non-government and government wildlife agencies. These ventures are growing partially due to the influence of the North American Waterfowl Management Plan.
- A relatively new development in Canada is the involvement of municipalities and landowners in the design and implementation of conservation and rehabilitation programs.
- Cooperative ventures between government and non-government organizations represent one of the most effective approaches to wildlife habitat management in Canada under the present regime of fiscal restraint.

Recommendations

- Federal and provincial governments should enhance these cooperative ventures by establishing clear habitat targets and committing matching funds for those programs that will achieve those goals.

SOME FEDERAL GOVERNMENT PROGRAMS WITH POTENTIAL FOR COOPERATIVE WILDLIFE MANAGEMENT ACTIVITIES

(for agricultural programs see table next section)

Program	Funds ($ millions)	Year
Canadian Forestry Service		
- Forest Environment Research	3.3	87-88
- Forestry Development Sub-Agreements	85.7	87-88
Energy Mines and Resources		
- Environmental Protection	1.3	87-88
- Environmental Studies Revolving Fund *	1.53	86-87
Indian and Northern Affairs		
- Economic Development	62.9	87-88
- Reserves and Trusts	43.7	87-88
- Economic Planning & Development	25.0	87-88
- Renewable Resource Management and Environmental Protection	47.0	87-88
Regional Industrial Expansion		
- Eonomic Resource Development Agreements	138.4	87-88
- Industrial and Regional Development Program	227.4	87-88
- Other Related Programs	208.3	87-88
Employment and Immigration		
- Human Resource Development	1,951.3	87-88
National Defense		
- Natural Resource Management	2.0	87-88

Source : Canada, 1987-88 Estimates, Part II or III, Minister of Supply and Services, Ottawa, Canada

* Fund consists of contribution levied through charges on oil and gas lands under lease to private companies. Levies are proportional to ecological studies and mitigations related to exploration and development activities on the lands.

5. FUNDING OF COOPERATIVE WILDLIFE HABITAT ACTIVITIES WITH OTHER NATURAL RESOURCE SECTORS AND INDUSTRY

Summary

Revenues and expenditures associated with wildlife habitat management programs are dwarfed by the size and array of fiscal incentives to develop other land based resource sectors.

Additional Points

- Many government programs and industry activities in other resource sectors result in direct competition with wildlife habitat objectives.

- Activities in other sectors can be compatible. Recent forestry policy initiatives in Québec and Nova Scotia provide examples; both have explicit wildlife habitat management goals built into their implementation strategies.

- Fiscal transfers such as Economic Resource Development Agreements (ERDAs) extend the federal government's influence beyond land under its jurisdiction to that under the provinces.

- Industry spends about $250 M per annum on landscape rehabilitation. Some industries have found it more cost effective to directly fund cooperative programs for wildlife habitat enhancement than pay the full costs of required mitigative measures.

Recommendations

- Industry should be encouraged to consider investing in cooperative wildlife habitat rehabilitation and even a compensation program as partial alternatives to costly mitigation in intensively impacted areas.

- Governments should consider using the same tools for the development and enhancement of resource sectors, including fiscal incentives to landowners and tax relief mechanisms for habitat management.

- Wildlife habitat costs should be factored into the cost/benefit analysis of programs in other resource sectors and passed on to consumers (technically already in place with hydro development).

- Federal government programs should abide by the Federal Land Use Policy and include compensatory measures to mitigate against wildlife habitat loss.

- Governments should consider dedicating a small proportion of spending in other natural resource sectors to help achieve compatible wildlife habitat activities. If 1% of the program expenditures of just these federal agencies listed on the opposite page was dedicated to integrating wildlife conservation measures into the related programs, it would represent a $27 M per annum increase in federal funding for habitat conservation.

- The crown should consider royalties from industry that affect wildlife habitat (similar to the royalties paid for timber damage or grazing leases for access).

FEDERAL AGRICULTURAL PROGRAMS WITH INDIRECT IMPACTS ON WILDLIFE HABITAT

Program	Funds ($ Millions) 1984/85	1985/86	1986/87
Crop Insurance	150.5	198.	213.
Agricultural Statibilization	407.8	31.	86.
Western Grain Stabilization	150.	84.	76.
Farm Improvement Loans		4.	5.
Prairie Farm Rehabilitation Administration :			
On farm water development		5.5	6.6
Group and community water development		.7	2.9
Community pasture program		10.5	11.5
Livestock Feed Board		17.0	19.7
Farm Credit Corporation (Loans) Administration/Operating Approx. 4.5 M/year	621.	214.	

Economic Resource Development Agric. Subagreement 5 yr average 24.8 M.

Source : 1) Environment Canada (1986). Federal Programs with the Potential to Significantly Affect Canada's Land Resources. Ministry of Supply and Services, Ottawa.

2) Agriculture Canada - Program Co-ordination Division.

6. FUNDING THROUGH INFLUENCING UNRELATED PROGRAMS WITH INDIRECT IMPACTS

Summary

The loss of wildlife habitat in Canada often reflects conflicting and uncoordinated government policy. While some programs support the rehabilitation and conservation of wildlife habitat, others, by unintentially encouraging alternative land uses, degrade the habitat base.

Additional Points

- Subsidizing grain production through grain quotas has had a major, unintended but insidious impact on waterfowl habitat in the prairies. Programs with comparable indirect impacts are paralleled in other sectors and in both federal and provincial programs.

- An Environment Canada study of the synergistic impacts of government programming on fruit lands in the Okanagan Valley identified a broad range of programs with impacts on the land base; these included the Agriculture and Rural Development Act, Canada Mortgage and Housing Corporation, Department of Regional Economic Expansion, Veteran's Land Act, Provincial Agricultural Land Use Reserves and the Agricultural Stability Program.

- In pursing their own mandates and programs, different departments and levels of government often fail to take account of related issues, including wildlife habitat concerns.

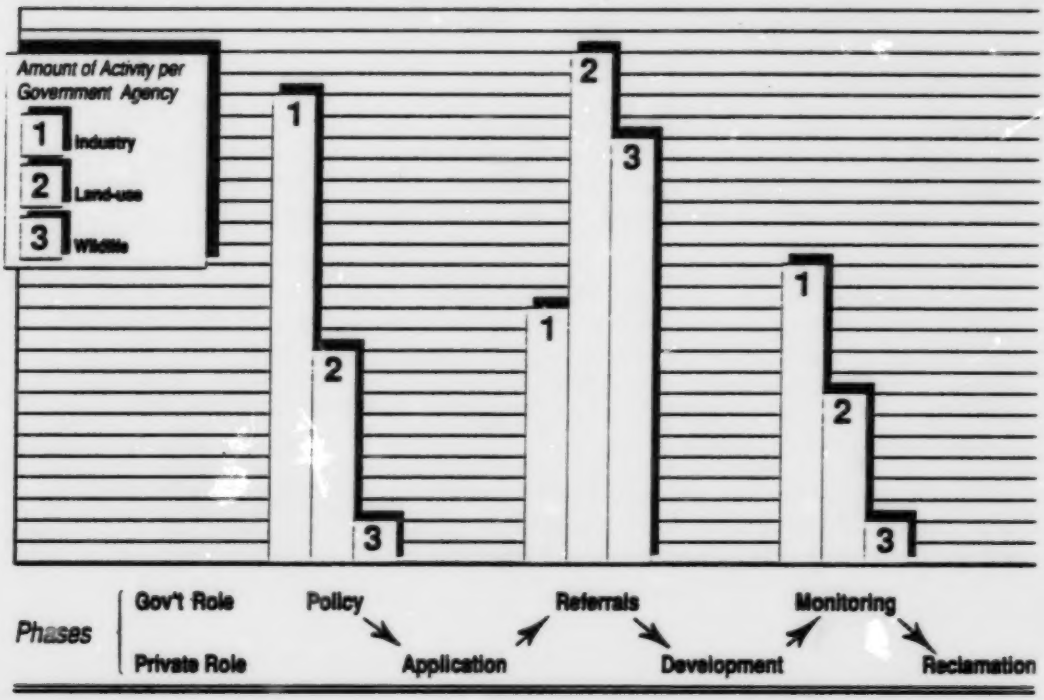
Recommendations

- Governments should stimulate a climate conducive to the assessment and correction of indirect and synergistic impacts of programs affecting the environment in general and on wildlife habitat in particular.

- Mechanisms promoting cross-sectoral interests are needed to investigate those impacts. Impacts investigated should include those projected for new policy initiatives as well as those resulting from ongoing programming. Proactive mechanisms should complement existing project-focused reactive impact assessment procedures.

- Integration of wildlife habitat concerns, even to a cost of only 1% of the total Federal Agricultural Program listed opposite, could provide an additional $16 M funding potential.

Relative Estimates of Government Effort Related to Industrial, Land Use & Wildlife Activities in the Various Policy & Administrative Phases *(Neave 1983)*



7. FUNDING OPPORTUNITIES UNDER THE NEW ENVIRONMENTAL AGENDA

Summary

A new, broader economic/environmental agenda is developing which encompasses the life support systems of our planet - the oceans, atmosphere, soil and forests. There is an opportunity to tie this new agenda into the current environmental focus often dealing with regulating surface disturbances and curbing the negative impacts of development on wetlands, wilderness and wildlife habitat.

Additional Points

- The new agenda will be linked to Canada's goals in expanding international trade and will recognize the need for sustainable economic development and continued technological innovation. "Sustainable development" has become a major public issue particularly after the Bruntland Commission and the World Conservation Strategy.

- There is a growing public awareness of the relationship between the conservation of resources and future economic prosperity.

- With a higher public profile, there is likely to be a shifting of environmental programming to other or to new governmental agencies.

- There will continue to be growth in expenditures on the protection of the environment. Will wildlife and ecological interests play an increasingly central role in this growth or be relegated to a peripheral actor?

Recommendations

- Ecological interests must be integrated into the review and development of larger economic and political issues.

- Wildlife managers and administrators must increasingly apply both economic principles to wildlife management and broader ecological programs to protect wildlife habitat.

8. CONCLUSION

This paper has illustrated the traditional "Canadian" approach to funding wildlife habitat activities. Generally this has consisted of appropriating funds from the general revenue. However, it is clear that general revenue funding can no longer meet the costs of an increasingly sophisticated approach to wildlife habitat conservation. An approach evolving due to the increasing competition for the land base and our complex industrial society. This is particularly true under the current regime of fiscal austerity.

Cooperative ventures between government wildlife agencies, other government resource departments, non-governmental agencies and the business sector are one way of meeting the shortfall. Another is to make wildlife users of all kinds pay, the so-called "user-pay principle". This must include those who "enjoy" wildlife indirectly and those that affect habitat, ensuring that environmental costs of all kinds are passed through producers to the consumer.

Success in obtaining funds for habitat programs will not in itself allow Canada to meet the emerging wildlife management goals. More important is our ability to routinely influence the actions of major financial, industrial and land-use institutions which may create major impacts on wildlife habitat. However, the reactive approach to industry proposals of the 1970's must be replaced by proactive approaches - wildlife managers must seek common ground with other resource sectors.

In the past, crisis management has been the norm for wildlife habitat policies and programs in Canada, with the emphasis on costly remedial measures. A proactive "anticipate and prevent" approach will not stifle economic growth. If anything, recent experience has shown that sound environmental policies stimulate economic growth.

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Appendix Report #9

Compensation for Loss of Wildlife Habitat

by

Amanda M. Jones

COMPENSATION
FOR LOSS OF WILDLIFE HABITAT

A discussion paper on the use of
compensation as a wildlife habitat protection mechanism.

Amanda M. Jones
Wildlife Habitat Canada
April, 1987

RATIONALE

In Canada, escalating consumer demands and heightened awareness and concern about environmental degredation has forced Canadian governments to develop various mechanisms to protect Crown-owned and common property resources. Unfortunately, mitigative measures for wildlife habitat protection are more difficult to implement than for other Crown resources due to a lack of economic force, strong government policy reflected in legislation, and the current level of sophistication in wildlife habitat management.

If Canadian wildlife resources are to be protected and maintained for future use, resource developers must be made to consider the negative impacts of development on wildlife habitat and to propose positive alternatives. Where on-site mitigation is inappropriate or insufficient for protection of wildlife habitat on a particular project, compensation in recognition of the damage to, or loss of, public resources and amenities should be advocated. Whether paid in cash or in kind, compensation could be an effective mechanism to offset public resource losses that may occur as a result of a development. Consequently, this paper addresses the various issues and opportunities associated with compensating the general public, resource users and crown for loss of wildlife habitat.

DEFINITIONS

For the purposes of this discussion paper, working definitions have been developed as follows:

Mitigation: actions at all stages of a project which seek to reduce or prevent adverse environmental impacts of a project by modifying project planning, construction or operation.

Compensation: actions at all stages of a project which seek to redress the adverse environmental impacts of a project. Compensation programs can be developed either in conjunction with, or as a substitute for, mitigation actions, and are payments in cash or in kind that attempt to offset the losses which occur despite, or in lieu of, mitigation.

RECOMMENDATIONS

(To wildlife Directors and their respective Ministers)

1. Government agencies need to develop a general philosophy to guide the actions in land issue decisions on the use of compensation. This philosophy should promote a conservation approach which does not even entertain compensation proposals where the loss of wildlife habitat is avoidable. However, where regulating agencies are convinced that the public benefits of habitat alteration outweigh the benefits of preservation, compensation measures should be developed to replace or recreate, as nearly as possible, the original wildlife habitat in terms of size, type and geographical location. Compensation in terms of monetary awards should be considered as the least desirable option in a whole spectrum of acceptable compensation activities.

2. Prior to determining appropriate compensation measures for a particular region, government agencies involved in managing and regulating natural resources should have an understanding of the functions and values of existing wildlife habitat, and the current rates of habitat loss and gain. Apart from aiding in identification of restoration goals and the assessment of potential losses or damage to the original system, this knowledge will improve project coordination and will help to prevent adverse environmental effects as a consequence of many piecemeal but additive habitat alterations.

3. A thorough review of the major issues associated with compensation must be conducted prior to developing formal guidelines and strategies. This review should be tied to ongoing research by CEARC, and should also solicit input from private industry.

4. Provincial agencies should fully investigate the existing and potential opportunities for applying and refining compensation measures.

ECONOMIC RATIONALE FOR COMPENSATION

Mitigative measures tend to increase a resource developer's private costs, but the resulting project design is optimized with respect to all costs - both those of the developer and those that are borne by the Crown or general public as a result of lost opportunity from the benefits of other resources.

Compensation ensures that all resource costs that occur despite, or in lieu of, mitigation are paid by the developers. In effect, it ensures that the Crown is reimbursed for any depletion of its natural resources. And, by directing funds to support projects in the regions that have been exploited, compensation can reduce any disproportionate sharing of the costs and benefits of a development that may result if a group suffers a net loss as a result of development. Compensation will also retain future land-use options while allowing orderly regional development.

As an alternative to on-site mitigation, compensation would permit industries to allocate part of the money spent annually on habitat mitigation, either directly or through a fund, to more innovative site-specific habitat enhancement/rehabilitation projects. As Habitat Enhancement/Trust Funds already exist in most provinces they could serve as a mechanism to direct all compensation funds to wildlife habitat projects.

Finally, compensation could provide more flexibility in the development of economically efficient projects that encourage optimal project design and optimal use and protection of Canada's natural resources. It could help to reduce the morass of mitigative regulations facing development proponents and could help to foster a more creative interface between industry and wildlife habitat managers.

Society forfeits certain benefits when a resource is to be utilized in one way as opposed to all others. In order to optimize the consumption of Canadian resources, there is a need to assess priorities and to compensate for those that are lost or damaged.

Traditionally, resource development in Canada has been relatively cheap - in essence, developers have received a resource subsidy. The implementation of mitigation and compensation measures could ensure a balanced development of Canadian resources in the future; if developers wishing to use certain resources have to pay their full worth, they would only undertake development where the (private) net benefits exceed the value of the resource loss (compensation and mitigation costs).

The implementation of effective mitigation and compensation programs will require substantial scientific and financial commitment and will ultimately depend on which priorities are established and on how much agencies are willing to spend. The success of these programs will reflect the ability of wildlife managers and developers to work together to achieve the best possible programs for wildlife habitat conservation.

CONSIDERATIONS & IMPLICATIONS

The use of compensation would appear to have several advantages as a wildlife habitat protection mechanism.

By developing formal guidelines to determine appropriate compensation for habitat loss, managers and proponents will be provided with a clear framework with which to assess the environmental effects of a project. This will facilitate communication during project design and evaluation, present clear goals for resource protection, outline study design requirements, and provide fairness and consistency in determining compensation measures.

At present, industries are often compelled to finance wildlife-related studies as part of the development application process. Many of these studies are site-specific and some of dubious value. The opportunity to reallocate, and perhaps reduce these expenditures into more effective, long-term and functional programs may be preferred; especially if they enhance the industries' public image and possibly reduce negative public reaction to future developments.

By promoting compensatory programs, a government could encourage co-operation between industries and the respective wildlife habitat agencies as the two work together to design and implement the most effective projects. Also, through compensation measures, industries could contribute to the costs of initiating and maintaining wildlife habitat enhancement/rehabilitation programs that might normally be borne by the provincial government i.e. provide an additional co-operative source of funding and even attract other private and government organizations in joint projects.

Compensation would provide the opportunity to deregulate, and therefore reduce, the cost of some land activities. The removal of certain mitigative conditions, (in exchange for the developer's participation in a compensation program), would provide a considerable saving to some developers and might also lead to more expeditious approvals.

As industries become involved in developing and funding wildlife habitat compensation programs, it would be logical to assume that they would not advocate land-use developments that might interfere with, or reduce the effectiveness of, these programs.

The process of compensation may involve the evaluation of monetary andsocial values of probable wildlife losses caused by developments in a particular area. Thus, compensation could inadvertently screen out economically impractical development projects that might be to the long-term detriment of the region.

As compensation may involve habitat manipulation to improve or sustain wildlife, programs could have long time spans that extend beyond the development phase and that result in persisting benefits for wildlife. For example, gravel extraction sites that are enhanced for fish and waterfowl production would, to all intents and purposes, be effectively permanent. In some situations, given equivalent costs and manpower, habitat enhancement would be the logical preference over short-term mitigation practices during development operations.

If significant negative impacts to wildlife habitat cannot be offset by mitigation of an approved resource development, compensation could provide a tangible means of redressing the inevitable damage by allowing industry to become party to future enhancement programs. Also, if development is to occur despite loss of irreplaceable wilderness or aesthetic values, compensation would ensure that other wildlife habitat is protected or enhanced.

As enhancement results in measurable improvements in the ability of habitat to support wildlife, the response of resident wildlife poplations could be quantified relatively easily for planning and program evaluation. This would be a useful source of information to future wildlife habitat programs.

While the use of compensation may be an effective method for protecting wildlife habitat, it also introduces several problems and issues.

When a compensation agreement between the government and a developer involves payment of a monetary nature, it may be difficult to assign a value that truly reflects the worth of those resources that are to be lost to the public. (The real economic cost of using a particular resource must be measured by establishing the resource's worth at its best alternative use.) Potential losses of wildlife must be related to the capability of habitat and may presuppose a positive management plan. The loss of inherent capability of the site must also be considered when determining the compensation value of habitat loss, as future land-use activities or demands may increase the value of the existing resources.

Once compensation in the form of cash has been justified and the amount determined, there must be a decision as to where this money will be paid. Since wildlife habitat is, for the most part, a Crown resource, the payment for its loss or alteration should be to the Crown (royalty). The question arises as to whether it should be paid into a general provincial fund for allocation to habitat programs wherever the province sees fit, or directed towards the initiation of enhancement/rehabilitation projects in the region from which the original resources were taken. From the economic point of view, expenditures of funds need not be related or tied to the source or reasons for payment since all revenue should be directed for the general benefit of the province and could be paid directly into the existing Provincial Trust Funds that are found in most provinces. However, if equity objectives are to be met, funds must be rechannelled back to the area of the resource development. While this may not be the most economically efficient strategy, the issue must be resolved at the political level.

Projects that qualify for mitigation and compensation measures must be clearly and fairly defined as thousands of projects proposed by Crown corporations and the private sector are received annually by provincial governments. This includes consideration of those projects that are proposed by the government. (As both the owner and detractor of natural resources, the government will be both the recipient and the provider of compensation funds.)

While the result of compensation should be to restore specific habitat functions and values being lost, actual proposals may seek to substitute alternative functions and values. The two key questions are: whether habitat replacement should be "in kind" (i.e. same habitat type and size) or "out of kind"; and whether it should take place "onsite" or "offsite". Some argue that compensation should always be 'in kind'; i.e. full replacement of all that is lost. However, to avoid excessive and inefficient use of funds, it would seem that only those enhancement programs that yield benefits exceeding the initiating costs should be undertaken. Also, when compensation for habitat loss is to be achieved through 'compensation in kind', a problem may arise when trying to determine the habitat that can be considered equivalent in value to that which is lost.

The cumulative impact of isolated projects must be considered. Net losses of wildlife habitat accumulate as do changes in habitat type resulting from out-of-kind replacement and habitat "enhancement". While long-term impacts of such cumulative changes are difficult, if not impossible to predict, they will centainly be adverse in the long run. Also, mitigation and compensation responses may themselves result in adverse impacts which may be equally or more significant than the adverse impact sought to be addressed.

Since wildlife habitats are dynamic ecosystems, habitats that are enhanced or created for compensation purposes today may gradually change to a different type with different values. For example, forested wetlands converted to marshes under an "enhancement" plan, unless managed indefinitely, may eventually revert to forested wetland. Consequently the increased habitat value anticipated from the "enhancement" process would then be nullified. It is unrealistic to expect the owners of mitigation wetlands to manage these systems indefinitely in order to maintain the values for which they were originally created.

Subsequent land-use in the enhanced/rehabilitated area may reduce or eliminate the effectiveness of any previous compensation efforts and may result in loss of effort, money and wildlife. However, if resource developers have participated in the implementation of compensation programs, there may be less incentive to propose developments in these areas.

If a compensation mechanism was introduced as a mandatory habitat protection mechanism, developers would need to acquire or retain expertise to appropriately plan, design and cost-potential enhancement projects with the provincial government. This representative would have to negotiate on the company's behalf to ensure that projects could be implemented without compromising or threatening the economics of a proposed development project.

Off-site enhancement programs must be preceded by careful co-operative planning between provincial governments and the developers. Managers and developers should select strategies that require single or few treatments rather than initiate programs that will require annual input over several years. Strategies must be developed within the context of target species and the array of current and proposed site-specific land-use activities in an area. Efforts must be integrated with future forest operations or grazing expansion, for example.

Finally, trade-offs must be negotiated and the type and scope of programs discussed with both the developer and the wildlife habitat manager. Manipulation of hunting regulations and vehicle access routes could be considered in conjunction with a habitat enhancement program, for example.

BACKGROUND
CANADA

While compensation measures have been clearly established for protection of certain Crown resources, (timber, coal, natural gas and petroleum), there has been little incentive for users to compensate for losses of Canadian wildlife resources that are readily available at no, or nominal charge.

The existing Environmental Impact Assessment (EIA) program has had limited success in protecting wildlife habitat and in ensuring the environmental acceptability of project design and planning for various resource developments. In many cases, the environmental organizations that implement the EIA process and that prepare mitigative measures for resource development proposals are quite separate from wildlife and land-use agencies. Thus, particular needs and requirements of wildlife habitat managers have often been neglected in the design of approval conditions for proposed developments.

Within most provincial environmental assessment processes, approval of proposed resource developments is governed by formal permitting procedures that impose certain conditions on potential development activities. The environmental statutes of several provinces provide for a great deal of ministerial discretion with regards to the mitigation requirements attached to the final approval of a resource development project. And, in many cases, land management agencies place the conditions on resource development plans rather than the EIA review committees.

Despite the more structured framework that has developed for the review and implementation of EIA's, mitigation and compensation have remained relatively informal concepts in this process. Little research has documented current practices and examinations of the effectiveness of past mitigative and compensatory efforts have been rare. Further, with the exception of the province of British Columbia, no formal policies or guidelines for mitigation and compensation in the EIA process have been developed in Canada.

Finally, while wildlife managers have had some success in entering the bureaucratic maze of referral systems that allow input to land-use decisions on Crown land developments, the inability to influence the entire spectrum of decision points, ranging from formation of policies and legislations to field monitoring and rehabilitation efforts after the developments have been completed, has limited the effectiveness of this input.

In Canada, the use of compensation to offset habitat losses is not new. Nationwide, very creative solutions to loss of wildlife habitat have been developed with the aid of environmental consultants, developers, government agencies and the general public. However, by adopting formal compensation guidelines, a framework could be provided to encourage cooperative project pre-planning, to expedite review of development application, and to ensure adequate compensation for inavoidable loss of the wildlife habitat resource. British Columbia is the only province to adopt this approach.

In British Columbia, several compensation awards have been made as a result of fish & wildlife habitat losses associated with new B.C. Hydro generator plants. The largest settlement to-date was $5.98 million in 1982 for fish & wildlife losses attributed to the Revelstoke Dam on the Columbia River. Most recently, $3 million was paid by B.C. Hydro for losses resulting from construction of the Arrow Lakes Dam. In the past, awards and decision seemed to be based more on the advocacy of parties involved than on the real merits of each case. As a result, developers and habitat managers demanded clear, consistent principles and procedures for mitigation and compensation decisions and this resulted on the development of a formal policy on impact mitigation.

Inherent in this policy, is the fact that compensation is not simply a payment to replace damaged habitat or populations. Rather, compensation negotiations can be viewed as having two sequential functions:

> (1) the identification of value of probable wildlife losses provides an estimate of monetary and social costs that can be used to decide whether a development should proceed; and (2) if the project proceeds, the compensation payment, in dollars or 'in-kind', provides a tangible means of redressing damage by enhancing or conserving remaining habitat.

Since 1980, the oil and gas industry in Alberta has been compensating trappers for losses resulting from development activities. Trappers have been reimbursed from a fund that is maintained by surcharge payments made by oil and gas developers.

Compensation payments are either in the form of cash awards (values are established using principles contained in B.C.'s Guidelines of Benefit-lost Analysis), or replacement-in-kind which are determined through negotiation with the developers.

The Northwest Territories have also adopted a Renewable Resource Compensation Policy. This policy could conceivably be used to ensure that the public is compensated for losses of wildlife habitat attributed to development projects. Currently, a compensation agreement is negotiated between the developer and the individual or community, defining compensation arrangements in the event of an adverse impact, caused by the developer, on the harvester or community. A Compensation Plan is submitted to the government by the developer, outlining anticipated impacts, the developers' method of compensation payment, and the method of community consultation and negotiation.

Recognizing that there is an increased interest and perhaps need for a more formalized approach to the use of compensation and mitigation, the Canadian Environmental Assessment Research Council (CEARC) is currently attempting to identify and explore important issues and perspectives concerning mitigation and compensation in the EIA process in order to facilitate the development of new and innovative ideas in this area. Initial research is focusing on a series of case studies which are being reviewed by individuals from all regions of Canada, and that represents industry, governments, Crown Corporations, academic, the legal community and public interest organizations. The result of this work should yield much needed information on the current use of compensation as a tool to offset adverse environmental impacts of projects in Canada.

BACKGROUND
U.S.A.

The earliest applications of resource mitigation in the USA were efforts to compensate for the effects of dams on certain fish populations. Today, the concept of mitigation includes acquisition and preservation of undisturbed natural habitats to compensate for habitat destroyed or damaged by development, and the creation, restoration and enhancement of habitat to replace lost habitat values.

In its Service Mitigation Policy, the U.S. Fish & Wildlife Service have attempted to clarify the objectives of mitigation and to provide guidelines for its application. It is worthy of notice that compensation is ranked as the least desirable strategy of a whole spectrum of mitigative measures, with preference focused on actions that avoid or minimize adverse on-site impacts.

Actions that can be recommended by the Service as appropriate compensation for the adverse environmental impacts of a project include, but are not limited to: (1) Conducting wildlife management activities to increase habitat values of existing areas, with project lands and nearby public lands receiving priority; (2) Conducting habitat construction activities to fully restore or rehabilitate previously altered habitat or modify existing habitat suited to evaluation species for the purpose of completely offsetting habitat value losses; (3) Building fishery propagation facilities; (4) Arranging legislative set-aside or protective designation for public lands; (5) Providing buffer zones; (6) Leasing habitat; (7) Acquiring wildlife easements; (8) Acquiring water rights; and (9) Acquiring land in fee title.

In the regulatory process, the appropriate compensatory action is determined by the Service biologist working in conjunction with state counterparts and other government agencies . First priority is given to recommending a compensation activity within the planning area, second priority to recommending a compensation activity in close proximity to the planning area, and third priority to recommending a compensation activity elsewhere in the state.

The level of compensation requested by the Service corresponds to the value and scarcity of habitat at risk. Value is based upon suitability to important species, populations, communities, and/or maintenance of overall biological diversity and may involve ecological, institutional, social and other considerations.

The impact of proposed or anticipated land and water use or management changes on fish & wildlife habitat is quantified using Habitat Evaluation Procedures (HEP). This habitat-based approach to evaluation of fish and wildlife habitat permits documentation of the relative value of the area at future points in time. The unit of measure of HEP is the habitat unit (HU), which is a number obtained by multiplying the number of affected acres by the habitat suitability index for the affected species. Thus selection of appropriate compensation plans can be based on the loss of habitat units in a particular area. Essentially, the developer bears the economic burden for compensation for loss of wildlife habitat, thereby internalizing the costs of a project i.e. loss of public resources, and does so without having to place an ecomomic value on the resources affected only on the cost of replacing them.

The use of HEP has also enabled developers to bank habitat unit 'credits' for the express purpose of compensating for unavoidable habitat losses associated with future projects. Withdrawls from the mitigation 'bank' are based on habitat value replacement, not on acreage or cost for land purchase and management.

Another interesting concept that is being well received in the U.S.A., is the use of mitigation fees. These fees are established to fund, on a collective basis, compensation for loss of wildlife habitat in a particular region.

A habitat conservation plan is developed by a steering committee with representatives from federal/state governments, natives, local development interests, conservation groups and scientists. This plan outlines those areas within the planning region that can be developed and establishes a mitigation fee to be paid by developers wishing to utilize these lands.

In principle, the size of the mitigation fee is determined by the rates of the amount of money needed to acquire or enhance key habitat in the planning region, to the extent of development which is anticipated to occur over a particular time within the designated fee areas. The fee is collected by a non-government agency prior to implementation of the project, and the developer is then granted a permit. The fees are placed in a trust account and expenditures are approved by the steering committee.

Despite the various compensation strategies that are being developed and utilized in the USA, it should be noted that compensation is still considered to be the least favored mitigation measure by the U.S. Fish & Wildlife Service. Mitigation involving compensation, particularly in conjunction with habitat creation as opposed to habitat restoration is still in the experimental stage with only limited application. As a mitigation technique, habitat creation is being limited to compensation for unavoidable habitat loss, and is not being used to justify destruction of habitat. Despite the growing body of literature describing habitat creation techniques, there continues to be an absence of data relating to large-scale creation of natural ecosystems.

In fact, a number of recently conducted studies indicate that the actual projects that are being accepted as compensation for habitat loss are being developed not on the basis of ecological or functional need, but rather according to cost, ease of implementation and aesthetics. Also, it seems that there has been inadequate compliance with and enforcement of mitigation recommendations or stipulations. This has largely been attributed to the lack of clearly stated habitat restoration objectives and design criteria in the permit conditions.

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Appendix Report #10

Uses and Values of Wildlife in Canada

A summary by J.E. Bryant based on a review

by

P.G. Whiting and Associates

Uses and Values of Wildlife in Canada*

Management of the many and varied Canadian wildlife resources is a responsibility shared by the territorial, provincial and federal governments. Wildlife is managed by these agencies for a variety of uses; uses which create many different associated values. The constituency of wildlife users includes virtually all Canadians; some for whom wildlife is an all-pervasive influence in their lives and others who gain enjoyment from wildlife if only through observation.

A review of studies of the uses and values of wildlife in Canada was undertaken at the request of the Wildlife Colloquium Task Force in December 1986. The Task Force required the information in the context of its mission to pursue new opportunities for cooperative wildlife conservation arrangements, and to examine new ways of generating funds for wildlife conservation.

The purposes of the review were:

- to determine the extent to which wildlife uses and values have been documented, by government and non-government management agencies and by other organizations;
- to comment on benchmark values of these various uses; and
- to identify opportunities for promoting wildlife conservation by management.

Over 200 reports were identified as pertinent to the study. Only 79, however, could be analysed within the time and budget available. The results must therefore be regarded as preliminary. The remaining reports will be reviewed by the Canadian Wildlife Service as soon as staff and budget considerations permit.

Wildlife uses were classified as:

Consumptive
Non-Consumptive
Cultural/Psychological

with several sub-categories.

* A summary based on a review by P.G. Whiting and Associates, for the Canadian Wildlife Service, of a sampling of reports on the subject.

Table 1 summarizes, by category of use, the 79 papers reviewed and indicates the kinds of uses included within each category.

Consumptive uses, particularly those relating to recreational hunting and trapping, were the focus of most of the studies, followed by recreational non-consumptive uses such as bird-watching. Scientific, cultural and psychological uses were the least studied.

All provincial and territorial governments, the federal government and several universities and non-government organizations have sponsored studies of the uses and values of wildlife. Approximately one-quarter were national in scope. Studies of birds and mammals were about evenly divided: waterfowl were emphasized among the bird studies, big game animals among the mammal studies, with a secondary emphasis on furbearers.

From the studies conducted in the 1980s, several benchmark results will provide useful bases against which to measure future changes. For example:

1. In 1981 15.5 million Canadians spent $4.2 billion on all uses of wildlife.

2. In 1981 1.8 million Canadians spent $1.2 billion hunting wildlife.

3. In 1985 the Canadian fur industry was valued at $1 billion annually.

4. In 1981 Saskatchewan had 180 outfitters with a gross income of $19.7 million.

5. In 1984 the subsistence value of moose meat in Manitoba was $2.3 million.

Some of the emerging issues identified were:

1. The subsistence and cultural uses of wildlife by native peoples and the need to factor such uses into resource management programs.

2. The present and potential impact of the "animal rights" movement on resource management, particularly as they affect subsistence hunters and trappers.

3. The concept of "untaxing wildlife" so as to provide some incentive to private landowners to continue to raise wildlife as a public resource on their lands.

4. The downward trend in the percentage of Canadians who participate in hunting, particularly since funds and political support for wise management of the wildlife resource have traditionally been subscribed largely by hunters.

Some of the shortcomings of past studies include:

1. Inadequate nation-wide assessment of attitudes toward and of the uses and values of wildlife.

2. Inadequate assessment of the scientific and cultural uses and values of wildlife, both nationally and locally.

3. Inadequate coordination of approaches, concepts and methodology, resulting in a loss of comparability, potential synergy, and value for money spent on the studies themselves.

Overcoming such shortcomings would provide an improved socio-economic basis on which to raise future comprehensive long-term strategies for the conservation of Canada's wildlife resources.

TABLE 1

FREQUENCY* OF EXAMINATION OF WILDLIFE RELATED USES
IN SELECTED CANADIAN WILDLIFE UTILIZATION STUDIES (79 STUDIES)

Wildlife Related Uses	Example of Uses**	Frequency #	Frequency %
CONSUMPTIVE		70	88.6
Subsistence	- subsistence hunting and trapping, meat,...	18	22.8
Commercial	- wildlife ranching/farming, trapping, down, fur, outfitting, guiding...	28	35.4
Recreational	- hunting, trapping, ...	51	64.6
Scientific	- bio-indicators...	2	2.5
NON-CONSUMPTIVE		26	32.9
Commercial	- travel marketing...	2	2.5
Recreational (purposeful)	- feeding, watching, travel...	26	32.9
Recreational (incidental)	- wildlife in urban parks...	13	16.5
Scientific	- bio-indicators...	2	2.5
CULTURAL/PSYCHOLOGICAL		9	11.4
Way of Life	- Wildlife in native heritage, culture...	7	8.9
Optional Use	- option for future use/benefit...	3	3.8
Contemplative/ Existence	- satisfaction from knowledge that wildlife species exist/conserved	3	3.8

* total is not 100%, since some studies reported on more than one type of use.
** indicates examples of uses, in the studies reviewed;
this does not represent the full range of uses within the typology

Appendix Report #11

The Strategic Role of "Marketing"

in Wildlife Conservation

by

Fern L. Filion

The Strategic Role of "Marketing" in Wildlife Conservation

(Discussion Draft)

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Canadian Wildlife Service

Wildlife Colloquium Task Force, April 1987

Acknowledgements

I thank André Jacquemot for his valuable assistance in describing some of the concepts and figures presented in this paper and to Joe Bryant for helpful suggestions on an earlier draft.

The Strategic Role of "Marketing" in Wildlife Conservation

F.L. Filion
Canadian Wildlife Service

Introduction

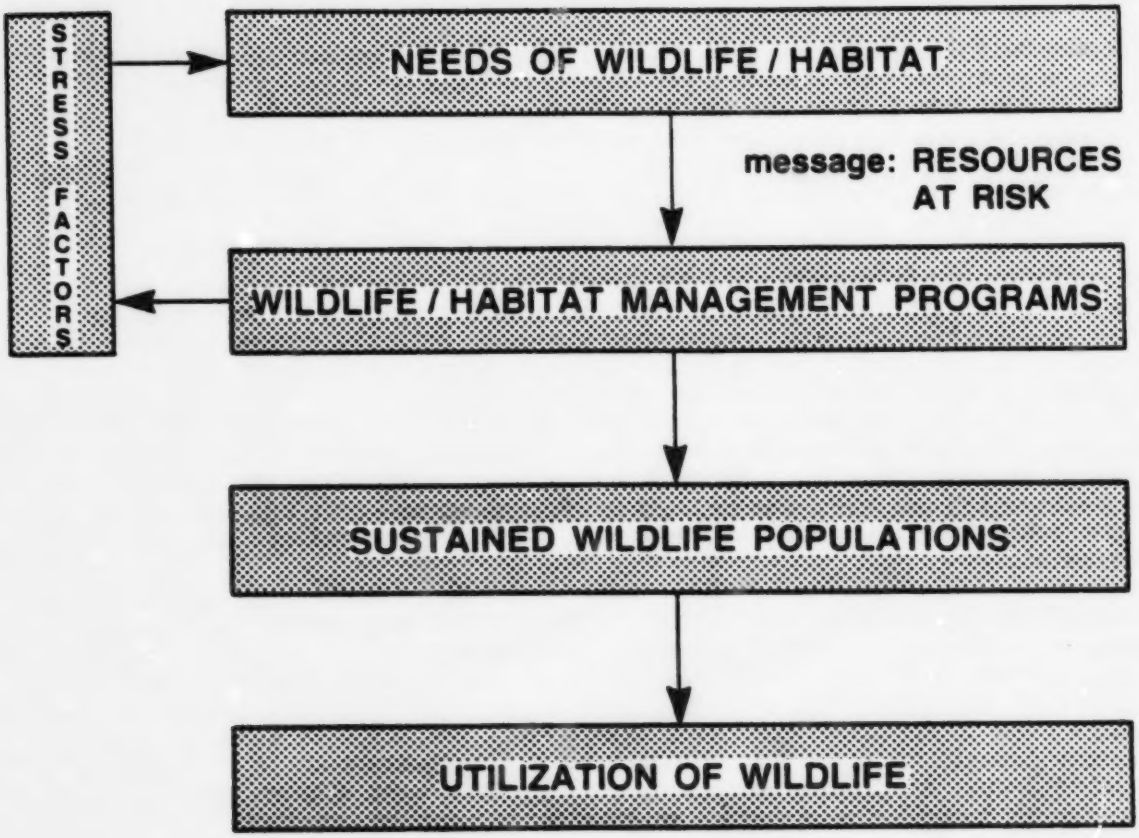
The Wildlife Colloquium Task Force is seeking innovative ideas which may lead to new thrusts in wildlife conservation. In the pages that follow I propose a marketing approach having the potential to serve a number of pressing wildlife management needs. The proposal offers a means of addressing Dr. Pearse's (1987) contention that conservation objectives which are defensive or that are content with merely sustaining benefits provided by wildlife programs will result in the gradual erosion of the resource. If the marketing approach is to be effective it must be closely integrated with the wildlife management models currently used in Canada. Traditional approaches to wildlife management have tended to be reactive and defensive whereas a marketing approach to management is largely proactive and complementary to traditional models. The approach is instrumental inasmuch as it leads to a marketing strategy which is capable of influencing the way in which senior decision-makers view the socio-economic significance of wildlife resulting from conservation.

1.0 Traditional Approaches to Wildlife Management

A model of traditional approaches to wildlife management is presented in Figure 1. According to this model wildlife management is seen as being mostly sensitive to the needs of wildlife and habitat. This is reflected by a strong preoccupation with stress factors which affect those resources. The principal aims of management programs are to sustain wildlife populations. Although some wildlife utilization occurs it tends to be narrowly defined and it is not the primary focus of management. In fact, utilization may be perceived largely as a source of stress on wildlife and managers may spend considerable effort prohibiting or regulating its use.

The traditional wildlife management approach may best be described as a Stress-Response Approach. This is because many managers perceive society and economic development as a significant threat to wildlife and its habitat. The main argument that managers have to defend or promote conservation is the fact the wildlife and habitat resources are at risk. The Stress-Response approach to management is prevalent in Canada today. For example it is the cornerstone of 2 major publications released within the past year. They are: State of the Environment Report - (Bird and Rapport, 1986), and Human Activities and the Environment (Statistics Canada, 1986). The Stress-Response approach to wildlife management tends to be largely reactive or defensive. Because of its nature, the approach does not rely on socio-economic input as a means of strengthening and expanding conservation programs.

FIGURE 1: WILDLIFE MANAGEMENT
(A TRADITIONAL STRESS - RESPONSE APPROACH)



2.0 Contemporary Approaches to Wildlife Management

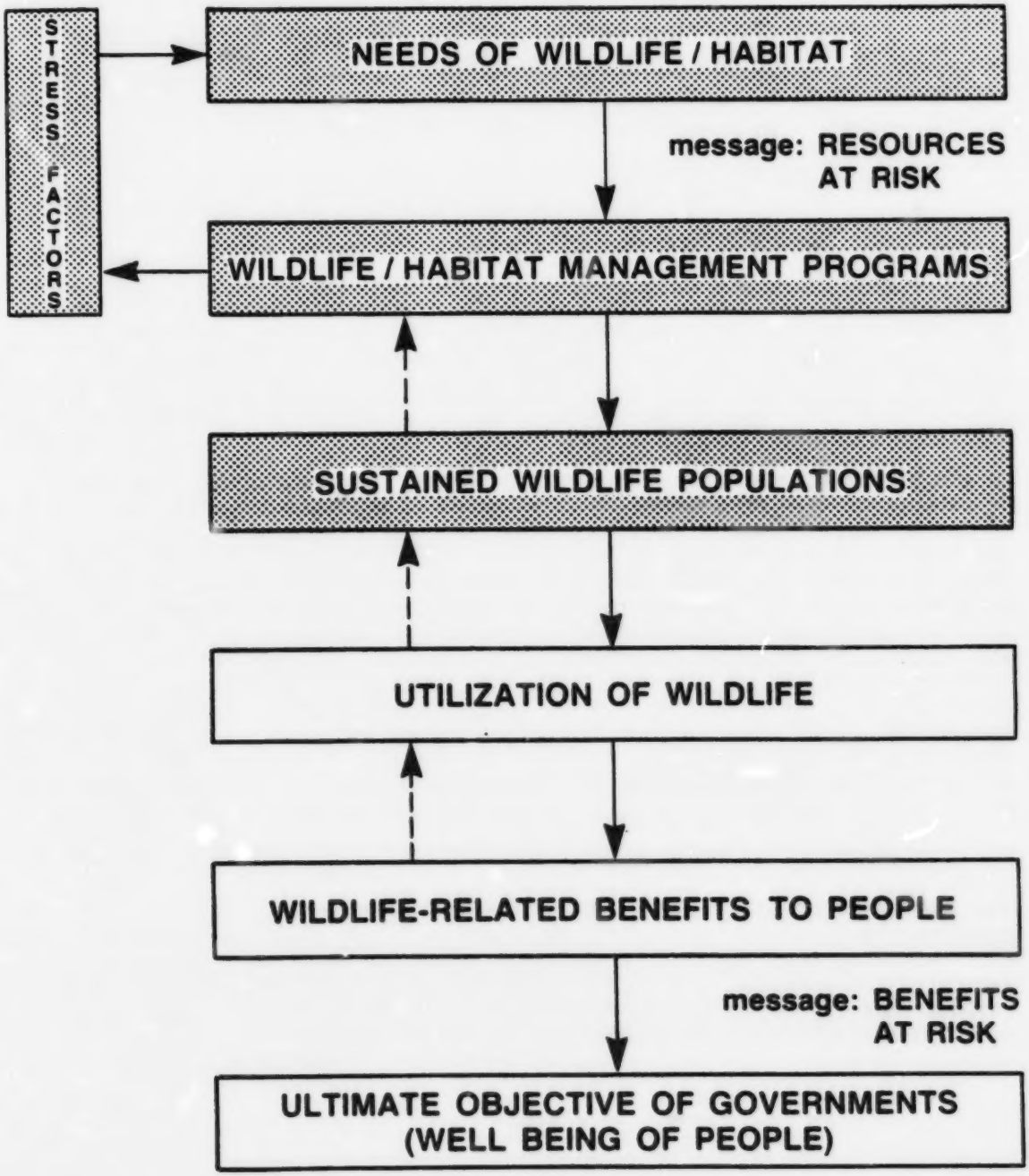
Figure 2 shows a relatively recent approach to wildlife management. Although it is firmly founded on the traditional concerns with the needs of wildlife (grey) it grants more recognition to the strategic importance of wildlife utilization (white) than does the previous approach. It not only shows that utilization occurs but it recognizes that utilization provides benefits to people and that these benefits contribute towards the well-being of society which constitutes the ultimate objective of the state.

As shown by the upward arrows in Figure 2 some socio-economic input occurs in the contemporary management approach. This input is not a priority in management but it does provide some feedback to conservationists on wildlife utilization, users and related benefits. One of most promising by-products of the socio-economic input lies in the fact that it makes senior management increasingly aware of societal "benefits that may be at risk" if the vital needs of wildlife and habitat are not met.

The contemporary Stress/Benefits Management Model is potentially more effective than the former Model because it offers two types of arguments to conserve wildlife. In addition to the "Resources at Risk" argument which prevailed in the Traditional Model, Conservationists now have the option of advancing politically attractive arguments on significant "Benefits at Risk" in the event of significant declines in wildlife populations and habitat. The conclusion is based on the assumption that politicians and senior decision makers are likely to be more supportive of conservation arguments which are multi-faceted and which demonstrate that the well-being of the voting public is also at stake when wildlife and habitats are threatened.

This increasing awareness has led to the wide acceptance of the three objectives of the World Conservation Strategy dealing with 1) maintaining ecological processes, 2) preserving genetic diversity, and 3) ensuring sustained utilization. The contemporary management model remains weak in regard to the third objective of the World Conservation Strategy largely because socio-economic input to conservation is minimal, it lacks focus, and is not well integrated in management strategies. In order to improve the situation an enhanced management approach is required - one in which a marketing function plays a strategic role in promoting conservation.

FIGURE 2: WILDLIFE MANAGEMENT
(A CONTEMPORARY STRESS / BENEFITS APPROACH)


STRESS FACTORS
NEEDS OF WILDLIFE / HABITAT
message: RESOURCES AT RISK
WILDLIFE / HABITAT MANAGEMENT PROGRAMS
SUSTAINED WILDLIFE POPULATIONS
UTILIZATION OF WILDLIFE
WILDLIFE-RELATED BENEFITS TO PEOPLE
message: BENEFITS AT RISK
ULTIMATE OBJECTIVE OF GOVERNMENTS (WELL BEING OF PEOPLE)

3.0 A Marketing Approach to Wildlife Conservation

A marketing approach to wildlife conservation is illustrated in Figure 3 which contains the key components of the traditional (grey) and contemporary (white) management models. It also includes modifications which capture the significant contribution of the third objective of the World Conservation Strategy - namely to ensure the sustainable utilization of species and the notion that wildlife-related benefits to people can be sustained in perpetuity given proper wildlife management programs. This objective is the key element which justifies introducing the notion of "Marketing" as an integral part of wildlife management.

3.1 Marketing and its Functions

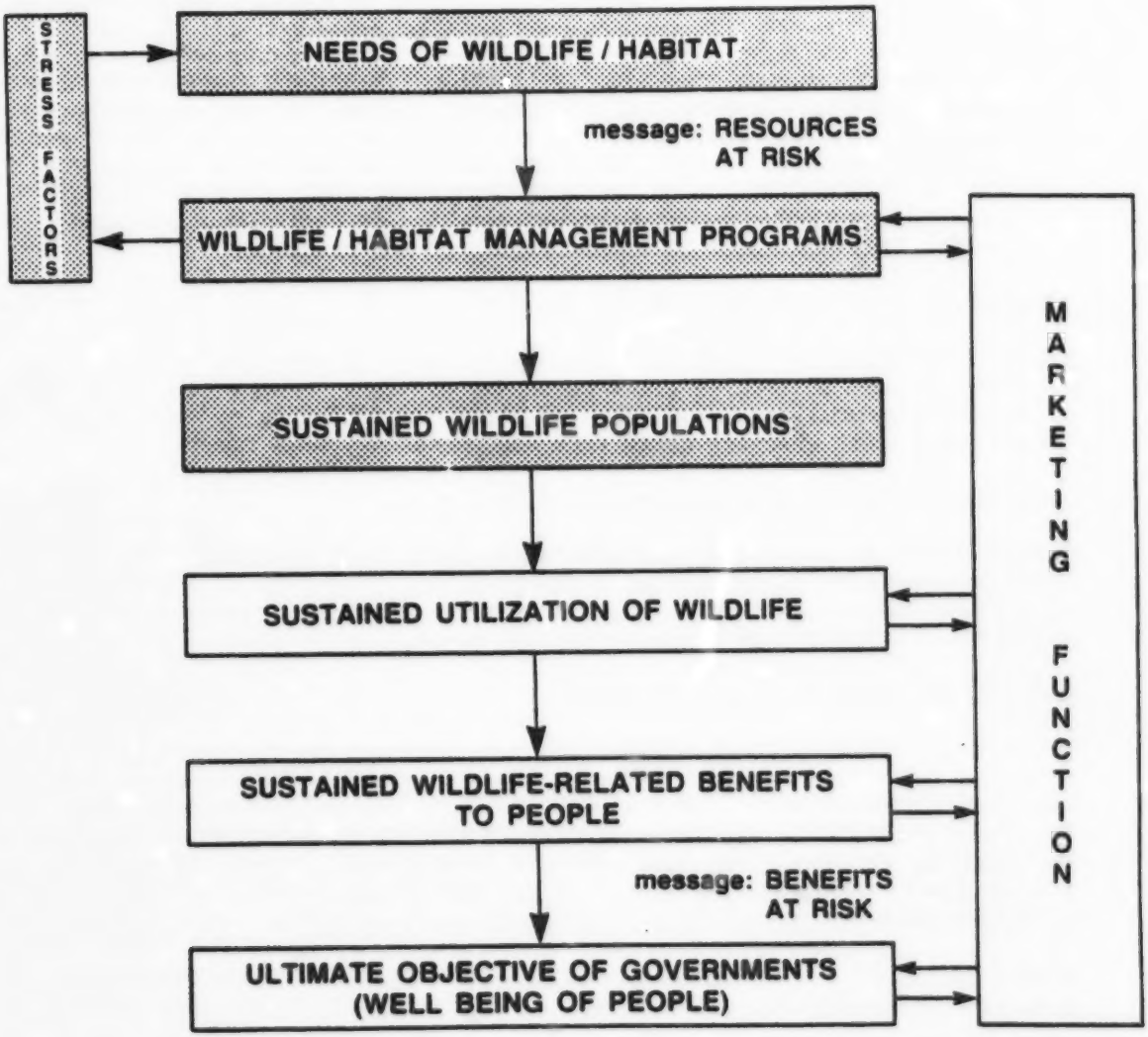
According to one expert: "Marketing as a field of modern management, has an important role to fulfill in the public service namely as a rational means of getting public input into public policies, plans and programs" (Barnhill, J.A., 1975:61). From a practical standpoint, managers must be concerned with the functional role of marketing. According to another expert the "Marketing Function" has been defined as the: "process of examining wants, attitudes and behavior of potential customers in order to aid in the design of a desired product and in merchandising, promoting and distributing it successfully" (Ritchie, 1973:6).

As the bi-directional arrows in Figure 3 suggest, this Marketing Function is capable of serving a number of vital needs of wildlife managers and decision makers. It provides a powerful, two way communication channel by which wildlife managers obtain information about government priorities and about wildlife users and the benefits those users receive from wildlife. Program managers can then skillfully use that information to promote wildlife conservation objectives by sustaining or expanding wildlife utilization, perpetuating or enhancing benefits and influencing senior government decision makers and politicians. Sustaining utilization, perpetuating benefits and influencing politicians and senior decision makers results in ensuring that fiscal and human resources are found to meet the needs of wildlife and habitat. After all, if wildlife managers are successful in sustaining wildlife benefits to people, they must also be successful in maintaining wildlife species and habitats.

3.2 Implementing the Marketing Approach

What must managers do to apply a Marketing Approach to conservation? Considerable direction is provided by answering 6 key questions which were initially posed by Ritchie (1973:13) to assist government managers determine the potential value of a marketing orientation. Although thorough answers to the questions are beyond the scope of this paper, provisional replies reveal a promising course for action.

FIGURE 3: WILDLIFE MANAGEMENT
(A STRATEGIC MARKETING APPROACH)


STRESS FACTORS
NEEDS OF WILDLIFE / HABITAT
message: RESOURCES AT RISK
WILDLIFE / HABITAT MANAGEMENT PROGRAMS
SUSTAINED WILDLIFE POPULATIONS
SUSTAINED UTILIZATION OF WILDLIFE
SUSTAINED WILDLIFE-RELATED BENEFITS TO PEOPLE
message: BENEFITS AT RISK
ULTIMATE OBJECTIVE OF GOVERNMENTS (WELL BEING OF PEOPLE)
MARKETING FUNCTION

Marketing Function: process of examining wants, attitudes and behaviour of potential customers in order to aid in the design of a desired product and in merchandising, promoting and distributing it successfully.

Question 1: Do you have customers?

Wildlife managers have at least two types of customers to satisfy.

a) The various publics who use and benefit from wildlife populations and habitats, and

b) The senior decision makers and politicians who have authority over the future of wildlife management programs. In the context of a marketing approach, the strategy is for managers to learn as much as possible about the publics (voters) who care about wildlife and the benefits that wildlife provides so that the best practicable case can be made to gain the vital support required from senior decision makers and politicians for effective conservation of the resource.

Question 2: How many customers do you have?

Wildlife managers are becoming increasingly aware of the fact that wildlife-related activities are diverse and popular. Management is in need of market segmentation analysis and a better understanding of current and future demand for wildlife activities and where they will occur.

Question 3: Do you make pricing decisions?

This question is intimately related to the "user pay" principle and the issue of fund raising in general. The question is central to successful wildlife conservation initiatives and is being addressed separately by the Wildlife Colloquium Task Force.

Question 4: What is your real product?

This question and the next one dealing with clients' needs are closely inter-related. Because of their nature and complexity the questions have received little attention in the past and currently offer fertile ground for socio-economic investigation. Clues on how to answer these questions are found by probing into those segments of the model (Figure 3) which are labelled "sustained utilization of wildlife" and "sustained wildlife-related benefits to people".

From a marketing standpoint the real products of wildlife conservation consist of the wide diversity of wildlife-related activities that people

engage in. Some of these numerous uses[1] are listed in Figure 4, which comprises a subset of the Marketing approach to Wildlife Management illustrated in Figure 3. Wildlife-related activities can be studied using conventional socio-economics research methods yet many of them have yet to be explored. To date Consumptive Uses have received the most attention while Cultural/Psychological Uses have received the least (Whiting, 1987). In other words, the arguments of wildlife managers for conservation are not as strong and comprehensive as they might be if more attention were given to gaining a better understanding of all of the uses of wildlife and wildlife habitat and of the wide range of actual and potential benefits for people.

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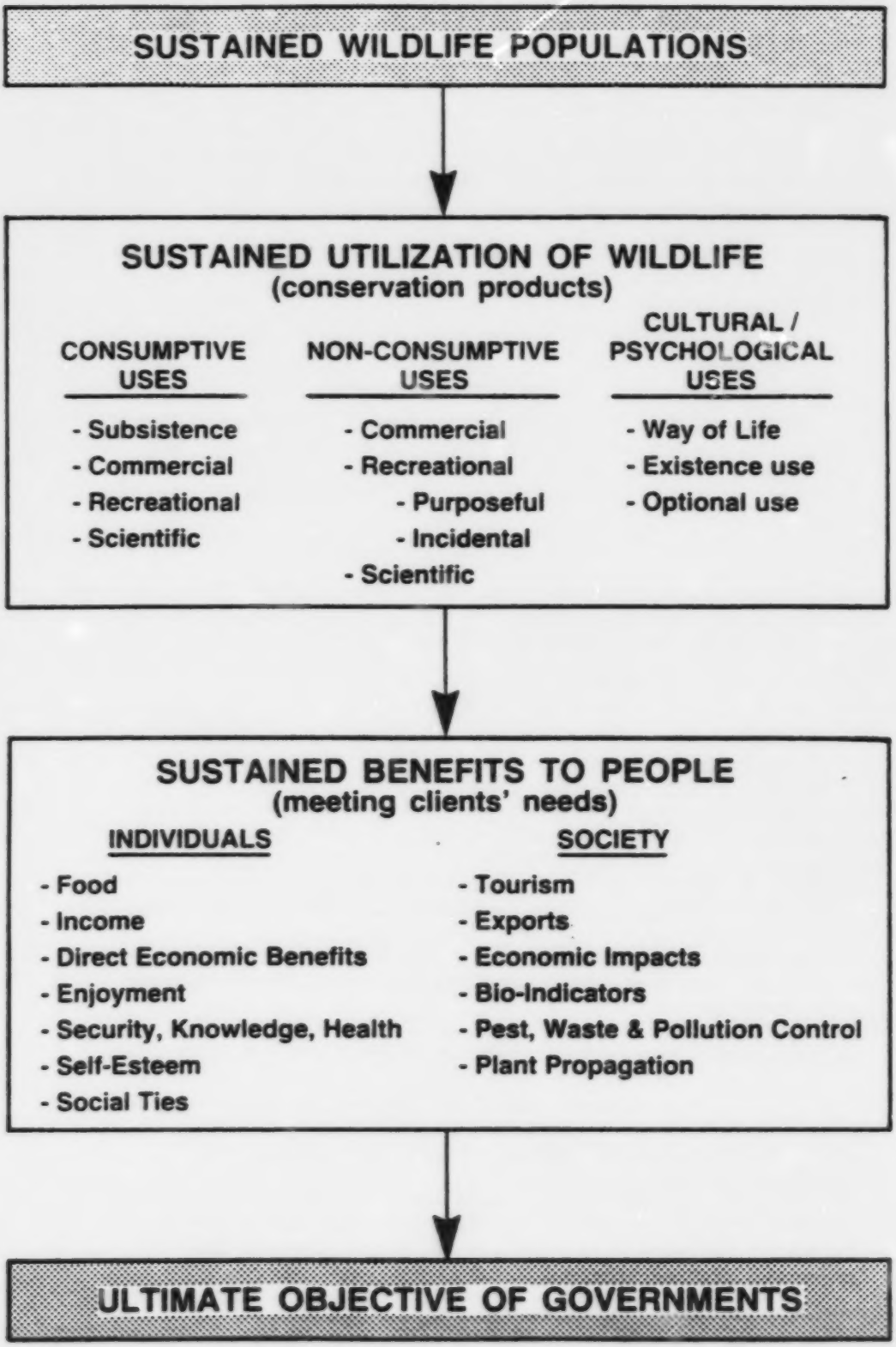
1 The 11 main uses that are shown in Figure 4 may be defined by considering the following examples drawn from Filion (1984):

Consumptive Uses
- Subsistence (meat, eggs, clothing)
- Commercial, (trapping, game ranching, taxidermy, down, meat, eggs, furs)
- Recreational (hunt, collect insects)
- Scientific (bio-indicators, medical research, museum specimens)

Non-Consumptive Uses
- Commercial (films, domestication/pets)
- Recreational - Purposeful (trips taken primarily to appreciate wildlife)
  - Incidental (wildlife enjoyed on trip taken for another purpose)
- Scientific (education, animal studies, bio-indicators)

Cultural/Psychological Uses
- Way of Life (native culture, arts and crafts)
- Optional (option to use or benefit from wildlife in future)
- Existence (knowing that wildlife exists or that it has been preserved from extinction)

FIGURE 4: EXAMPLES OF CONSERVATION PRODUCTS AND CLIENTS' NEEDS



Question 5: What are the needs of your customers?

The many uses of wildlife are beneficial to diverse publics because they contribute towards the fulfillment of clients' needs. According to Maslow (1970) there are 5 broad types of human needs. They include needs for a) food and clothing, b) security and protection, c) affection, d) knowledge and esteem, and e) personal growth and aesthetics. It may be a surprise to some that wildlife utilization in its diverse forms can contribute towards all of those needs.

Several examples of how clients' needs are met are provided in Figure 4 which shows how "sustained utilization" is linked with "sustained benefits". For instance commercial consumptive utilization of wildlife is a source of food and income for some individuals but it can also be a source of exportable goods favoring a state's balance of payments. More specifically, Marcel Lacasse of the Task Force has provided information on a Quebec based company which produces sport fishing equipment. This company creates jobs locally and produces economic gains for the province as a whole by marketing its products outside Quebec. Non-consumptive scientific uses of wildlife provide vital bio-indicators of environmental quality and it also constitutes a major source of knowledge and enjoyment to people. Existence use - knowing that wildlife is not threatened by toxins or extinction - contributes significantly towards the security needs of some people and the self-esteem needs of others. In the process of fulfilling these and other human needs, significant benefits are provided not only to individuals but also to society as a whole. The specific needs or benefits of individuals are not necessarily exclusive from the broader societal ones. For example, the role of bees in plant propagation which benefits society also contributes to the personal income of some individuals who commercially exploit these plants. Similarly, micro-organisms which are vital in waste and pollution control also contribute to the health and security of individuals.

Question 6: How can the distribution of your product be improved?

This final question is relevant because the World Conservation Strategy encourages sustained utilization. By developing strategies for encouraging the participation of diverse publics in various forms of wildlife utilization which meet human needs, managers are also ensuring that strong public support for conservation programs will be perpetuated. The notion of improved product distribution also has implications for habitat management. By ensuring that critical wildlife habitats are preserved in the vicinity of human settlements, managers will also be facilitating public access to various forms of wildlife utilization.

4.0 Conclusion

The marketing approach to wildlife management is proactive inasmuch as the proposed management model views conservation issues as opportunities regardless of how threatening they may seem and seeks to influence the issues constructively rather than merely reacting to them. In order to identify, explore and quantify wildlife-related benefits, a comprehensive market research program must be established and supported by management. Without competent wildlife-related socio-economic research programs to advise management on these and other key marketing questions, conservation programs are deprived of the strategic arguments required to explain the significant contributions of conservation to the well-being of mankind. Enhanced knowledge of constituencies who benefit from this resource is especially important to decision-makers because there are virtually no strong industrial interest groups to support wildlife management initiatives as there are in the case of the forestry, fisheries and agricultural sectors.

In summary why should conservationists consider a Marketing Approach in wildlife management? Consider the following reasons.

1) The Socio-economic benefits of wildlife and wildlife conservation are not well understood by senior decision makers. Conservationists need social, economic and political arguments as well as scientific ones to inform them.

2) When funding for existing wildlife conservation programs is threatened managers need to defend it. A marketing approach will add new and powerful dimensions to such defences.

3) New government funding for needed wildlife management initiatives is usually hard to come by. Conservationists need to justify it.

4) When new government funding for wildlife conservation initiatives is inadequate managers need to know the number of people who will benefit from the initiatives, their attitudes and the amount they are willing to pay to enhance wildlife populations and habitats. These customers may be a vital source of funding.

5) When wildlife populations or habitats are threatened, there is almost certainly a client group somewhere who will suffer from the anticipated decline. Quantifying the magnitude of those losses in socio-economic terms and seeking compensation from the source of the threat may be a vital conservation measure.

6) Essential conservation initiatives may sometimes be impeded by the public's lack of understanding. By generating improved knowledge of such impediments, "marketing" has the capability of showing how such attitudes can be changed.

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Appendix Report #12

Technical Card: CANRON

by

Marcel Lacasse

TECHNICAL CARD

1. Company involved the production of fishing goods:

   Canron
   Port of Montreal Building
   1 St. Fl. Wing 3
   Cité du Havre
   Montréal, QC
   Canada
   H3C 3R5

2. Production for 1987: 150 000 fishing tackle boxes
   300 000 tool boxes

3. Sub-contractor's contract for parts assembling:
   - Sub-contractor: Les ateliers Filaubois de Rawdon (QC)
   - Value of the contract: 250 000 $ annually
   - Leave of the contract: 3 years
   - Number of employees: 10

4. Production value of the fishing tackle boxes: 1,2 M $

5. Retail value of the fishing tackle boxes: 2,1 M $

6. Total production value of the fishing tackle boxes and tool boxes: 3,6 M $

7. Retail value of the total production for 1987: 6,3 M $

8. Exportation of the 1987 production: The production is supposed to be exported on Canadian market and United Stated market.

1987-03-16

Appendix Report #13

Technical Card: SPORTS BRECK'S INC.

by

Marcel Lacasse

TECHNICAL CARD

1. Company involved in the production of fishing goods:

   Sports Breck's Inc.
   2560, rue Roy
   C.P. 604
   Sherbrooke, QC
   J1K 1C1

2. Production for 1987: Processing and assembling of semi-finished goods for instance fishing tackles.

3. Characteristic of the company:

   - Company age: 40 years
   - Number of employees: 15
   - Origin of the raw material: France, Germany, United States

4. Production value for 1987: 3 M $

5. Retail value for the production of 1987: 6 M $

6. Exportation of the 1987 production:

   The production is not exported on United Stated market. All the production is sold on Canadian market, especially in the provinces of Ontario (40%) and Quebec (23%).

1987-03-25